

**A Kit for
Water Works Owners**

505

December 2001



**Ministry of the
Environment**



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Printed on recycled paper

ISBN 0-7794-2557-X

PIBS 4220e

**THE DRINKING WATER PROTECTION REGULATION
FOR SMALLER WATER WORKS SERVING DESIGNATED FACILITIES (O. REG. 505/01):**

A KIT FOR WATER WORKS OWNERS

This kit is for you if:

- You own or operate a water works that serves a 'designated facility' as defined in O. Reg. 505/01 (e.g. a health care facility, a delivery agent care facility, a school or private care facility, a social care facility, or a university or college of applied arts and technology).
- You would like to know more about the new Drinking Water Protection Regulation for Smaller Water Works Serving Designated Facilities.

The kit includes:

1. A guide to help you understand Ontario's drinking water protection regulations
 2. An overview of the regulation's contents
 3. A glossary of terms
 4. A description of your responsibilities as a water works owner subject to the regulation
 5. A 'how-to' guide for collecting water samples
 6. Information on training for water works operators
 7. An example of a 'compliance calendar' to help you organize your sampling, analysis and reporting requirements
 8. A package of all forms you may need to comply with the regulation
 9. Information on accredited labs
 10. A list of public health units
 11. Reference to other useful documents
 12. Contact information
 13. A sample annual report
 14. A copy of the regulation
- Forms enclosed

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1

DOES THE DRINKING WATER PROTECTION REGULATION FOR SMALLER WATER WORKS SERVING DESIGNATED FACILITIES (O. REG. 505/01) APPLY TO YOU?

This regulation took effect in December 2001. It typically applies to water works that serve facilities where most of the users are sensitive to contaminants in drinking water (such as children and the elderly). Made under the *Ontario Water Resources Act (OWRA)*, the regulation helps to ensure that subject water works supply safe drinking water.

O. Reg. 505/01 may apply to your water works if you meet both of the following:

- Your water works serves a ‘designated facility.’ Box 1 on page 2 and the Glossary of Terms (Tab 3 of this kit) will help you to determine whether your water works serves a designated facility.

and

- Your water works is not subject to Ontario’s Drinking Water Protection Regulation for Larger Water Works – O. Reg. 459/00. Box 2 on page 3 will help you to determine whether your water works is subject to O. Reg. 459/00.

Note: O. Reg. 459/00 or O. Reg. 505/01 may apply to your water works – but not both. Some water works may be subject to neither.

BOX 1: WHAT IS A 'DESIGNATED FACILITY' ACCORDING TO O. REG. 505/01?

For formal definitions, refer directly to the Drinking Water Protection Regulation for Smaller Water Works Serving Designated Facilities.

☒ **A health care facility**

Includes:

- Hospitals
- Private hospitals
- Psychiatric facilities
- Nursing homes
- Homes for the aged or rest homes
- Certain approved charitable institutions
- Cancer centres established by the Ontario Cancer Treatment and Research Foundation
- Homes for special care
- Mental hospitals
- Commercially operated residences for seniors or retired persons
- Certain facilities funded through the Underserved Area Program
- Certain facilities receiving funding from the Ministry of Health and Long-Term Care

☒ **A school or private school**

☒ **A university, college of applied arts and technology, or an institution with authority to grant degrees**

☒ **A delivery agent care facility**

Includes:

- Emergency hostel services
- Domiciliary hostels funded under the *Ministry of Community and Social Services Act*
- Facilities providing resource centre programs funded under the *Day Nurseries Act*

☒ **A social care facility**

Includes:

- Facilities subject to the *Developmental Services Act*
- Children's residences licensed under the *Child and Family Services Act*
- Day nurseries
- Facilities providing certain programs/services funded under the *Child and Family Services Act*, the *Developmental Services Act*, the *Ministry of Community and Social Services Act* or the *Ontario Disability Support Program* (but not, in some cases, if located in a private residence). E.g. emergency shelters, young offender services, child and family intervention centres
- Aboriginal healing and wellness programs

BOX 2: THE DRINKING WATER PROTECTION REGULATION FOR LARGER WATER WORKS (O. REG. 459/00)

This regulation came into force in August 2000. It may apply to your water works, depending on how many residences it serves, and/or how much water it can supply.

Answer the following questions to determine whether your water works is subject to O. Reg. 459/00:

- | | YES | NO |
|---|--------------------------|--------------------------|
| 1. Does your water works supply more than 50,000 litres of water on more than two days in every 90-day period and is it <u>capable</u> of supplying water at a rate of greater than 250,000 litres per day? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Does your water works supply water to more than five private residences? | <input type="checkbox"/> | <input type="checkbox"/> |

If you answered 'no' to both of the above questions, then you are not subject to O. Reg. 459/00. If you answered 'yes' to either of the above questions, then your water works is subject to O. Reg. 459/00, as long as it requires a Certificate of Approval under the *OWRA*.

Note: This kit is designed for water works subject to the Drinking Water Protection Regulation for Smaller Water Works Serving Designated Facilities and not for larger water works subject to O. Reg. 459/00. If you are subject to O. Reg. 459/00, you can obtain more information at:

- The Ministry of the Environment's website at: www.ene.gov.on.ca
- your local public health unit (refer to **Tab 10** in this kit), and
- the Ministry of the Environment's Public Information Centre (Tel: 1-800-325-3159)

If your water works serves a designated facility and is not subject to O. Reg. 459/00, then answer the following questions to determine whether it is subject to O. Reg. 505/01:

- | | YES | NO |
|--|--------------------------|--------------------------|
| a) Does your water works supply water used for human consumption at a designated facility? | <input type="checkbox"/> | <input type="checkbox"/> |
| <u>Note:</u> | | |
| <ul style="list-style-type: none">• Water used for human consumption includes water used in washbasins, bathtubs, showers, kitchens and food preparation areas.• A designated facility is any one of the facilities listed in Box 1 on page 2 | | |
| b) Does your water works obtain its water directly from a groundwater or surface water source, and <u>not</u> from another water works that is subject to this regulation or to O. Reg. 459/00? | <input type="checkbox"/> | <input type="checkbox"/> |

If you answered 'yes' to both of the above questions, then your water works is subject to the Drinking Water Protection Regulation for Smaller Water Works Serving Designated Facilities (O. Reg. 505/01). This kit will help you understand your responsibilities in complying with the regulation.

2

OVERVIEW OF THE DRINKING WATER PROTECTION REGULATION FOR SMALLER WATER WORKS SERVING DESIGNATED FACILITIES

O. Reg. 505/01 is made under the *Ontario Water Resources Act (OWRA)* and provides province-wide mandatory requirements to protect the quality of water supplied to populations that are sensitive to contaminants in drinking water (such as children and the elderly).

The Drinking Water Protection Regulation for Smaller Water Works Serving Designated Facilities contains 18 sections and two schedules:

- Section 1 **Interpretation.** Defines terms used in the regulation, including ‘designated facility,’ which means a health care facility, a delivery agent care facility, a school or private school, a social care facility, or a university or college of applied arts and technology. The definition of each of these types of facilities is also included.
- Section 2 **Application.** Describes to whom the regulation applies.
- Section 3 **Exemption from approval.** States that water works subject to the regulation, and which use a groundwater source, are exempt from requiring a Certificate of Approval under the OWRA.
- Section 4 **Minimum level of treatment.** Describes what owners must do, at a minimum, to ensure that water is adequately treated and protected.
- Section 5 **Notice of compliance.** Describes under what conditions, and by what date, water works owners must ensure that notices/reports on their compliance with the minimum level of treatment requirements of the regulation are submitted.
- Section 6 **Schools, private schools and day nurseries, weekly flushing.** Instructs school, private school and day nursery operators of their requirements to flush plumbing at the school/nursery each week.
- Section 7 **Periodic checks.** Instructs water works owners of their requirements to check equipment and conduct certain water tests on-site.
- Section 8 **Sampling and analysis for microbiological parameters.** Explains how often, and from where, water samples must be taken to test for total coliforms, *E. coli* or fecal coliforms, and heterotrophic plate count (HPC).
- Section 9 **Sampling and analysis for chemical parameters.** Explains how often, and from where, water samples must be taken to test for necessary chemical parameters.

- Section 10 **Analysis of samples.** Instructs owners of water works to use accredited laboratories to analyze water samples for microbiological and chemical parameters; and instructs labs of their reporting requirements to the water works owners.
- Section 11 **Notice of problems.** Describes when and how water works owners and laboratories must notify public health and other authorities of water quality problems.
- Section 12 **Corrective action.** Instructs water works owners on how to take action to protect users of water if water samples or other conditions indicate adverse quality.
- Section 13 **Posting warning notice.** Describes the circumstances under which a notice must be posted to warn the public that water is not, or may not be, safe for drinking.
- Section 14 **Information to be available.** Lists the documents and records that must be made available at each designated facility served by the water works.
- Section 15 **Annual report.** Describes the annual reporting requirements of water works owners – i.e. information to include, submission deadlines and report availability.
- Section 16 **Retention of documents and other records.** Lists the documents and records that must be kept on file by water works owners, laboratories, and school/nursery operators; and for how long.
- Section 17 **Forms.** Instructs all persons required by the regulation to submit a form to use the form that is approved or provided by the Ministry of the Environment.
- Section 18 **Purpose of notice to interested authorities.** States that any notice given to an interested authority is intended solely to inform the authority of a subject facility's compliance with the regulation.
- Schedule 1 **Indicators of Adverse Water Quality.** Describes different indicators of adverse water quality, and what corrective action to take if the indicator is observed.
- Schedule 2 **Chemical Standards.** Lists the chemical parameters that must be sampled and analyzed by accredited laboratories under section 9 of the regulation; and for those parameters that have health-related standards, specifies their maximum acceptable concentrations (MACs) or interim maximum acceptable concentrations (IMACs).

3

GLOSSARY OF TERMS

Before reading the Drinking Water Protection Regulation for Smaller Water Works Serving Designated Facilities, it is necessary to understand the terms used throughout. This glossary includes terms that are defined in section 1 of O. Reg. 505/01, and also includes additional useful terms.

Note: This glossary is for guidance only. For a complete definition of some terms, it is often necessary to refer to another document where the term is fully defined. For example, for a complete definition of ‘nursing home,’ you must refer directly to the Nursing Homes Act.

Accredited laboratory

When sending drinking water samples to a laboratory for analysis, it is essential to use a laboratory that is accredited for each parameter being tested. To become accredited, a lab must be successfully assessed by the Canadian Association of Environmental Analytical Laboratories (CAEAL). Upon CAEAL’s recommendation, the Standards Council of Canada (or its equivalent, as determined by the appointed Director) may grant accreditation. A lab can be accredited to test only one or a few parameters, or a great variety of parameters. Refer to **Tab 9** in this kit for more information on accredited labs. An up-to-date list of accredited labs and the tests they are accredited to perform can be found at www.ene.gov.on.ca.

Approval

‘Approval’ in this case refers to an approval to establish, alter, extend or replace new or existing water works. The right to grant such an approval is given to the appointed Director (the Director of the Ministry’s Environmental Assessment and Approvals Branch).

Section 52 of the *Ontario Water Resources Act* sets out which water works facilities require approval. According to the Act, approval is not required by water works that:

- (a) supply water – for agricultural, commercial or industrial purposes – that is not required under any Act, or under any regulation made under any Act, to be fit for human consumption; or
- (b) is not capable of supplying water at a rate greater than 50,000 litres per day; or
- (c) is privately-owned, to be used to supply water for only five or fewer private residences.

Certificate of Approval (C of A)

For an activity that requires approval (as defined above, see ‘Approval’), the water works owner must obtain a Certificate of Approval as a record that approval has been granted. The C of A details the terms and conditions of the approval, and may be revoked or changed at the discretion of the Appointed Director (the Director of the Ministry’s Environmental Assessment and Approvals Branch).

Certified

Under this regulation there are requirements for the use of 'certified' equipment, devices, or a system of connected equipment or devices. 'Certified,' in this case, means that the design and functioning of that equipment, device, etc. has been confirmed by means of a written professional opinion, signed and sealed by a professional engineer, based on an onsite inspection and a review of available records and relevant documentation.

Chemical parameters

'Chemical parameters' refers to all the chemicals that must be tested for under this regulation. These parameters include volatile organics, inorganics, pesticides and PCBs, and do not include what are known as microbiological parameters (i.e. coliforms and heterotrophic plate count), or operational parameters such as turbidity and chlorine residual. A complete list of chemical parameters can be found in Schedule 2 of the regulation.

Chlorine residual

'Chlorine residual' is the concentration of chlorine remaining in water or wastewater at the end of a specified contact period, which will react chemically and biologically. It may be present as either 'combined' or 'free chlorine' – or both. The absence of chlorine residual is an immediate indication of potential water quality or treatment process concerns, and that water is not protected from contamination by microbiological organisms.

Coliforms (Total coliforms, *E.Coli*, Fecal coliforms)

'Coliforms' are a group of bacteria typically found in the intestinal tracts of warm-blooded animals (including humans), as well as in plants, soil, air and water. Fecal coliforms (and *E. coli* – a member of the fecal coliform group) are a specific class of bacteria that only inhabit the intestines of warm-blooded animals.

Corrective Action

'Corrective action' refers to the actions that must be taken in the event that an Indicator of Adverse Water Quality is observed (see 'indicator of adverse water quality'). Schedule 1 of the regulation describes the corrective actions that must be taken when an indicator of adverse water quality is observed. For instance, if *E.Coli* is detected in any sample of treated water, the corrective actions to be undertaken immediately are to ensure that water is boiled or water use is stopped altogether, to increase the chlorine dose and flush the water system, and to resample and analyze.

Day nursery

The *Day Nurseries Act* defines a 'day nursery' as a premises that receives more than five children who are not of common parentage, primarily for the purpose of providing temporary care, or guidance, or both temporary care and guidance, for a continuous period not exceeding 24 hours, where the children are:

- (a) under 18 years of age in the case of a day nursery for children with a developmental disability;
- (b) under 10 years of age in all other cases;

but does not include:

- (c) part of a public school, separate school or private school under the Education Act.

Delivery agent care facility

For the purposes of this regulation, a 'delivery agent care facility' refers to:

- (d) An emergency hostel service – a shelter funded under the *Ontario Works Act (1997)* as a form of basic financial assistance;
- (e) A domiciliary hostel, funded under the *Ministry of Community and Social Services Act*;
- (f) A resource centre program receiving funding under the *Day Nurseries Act*;
- (g) A recreational program receiving funding under the *Day Nurseries Act*.

Designated facility

Under this regulation, a 'designated facility' is a:

- (a) health care facility (see 'health care facility');
- (b) delivery agent care facility (see 'delivery agent care facility');
- (c) school or private school (see 'school' and 'private school');
- (d) social care facility (see 'social care facility'); or
- (e) university, a college of applied arts and technology, or an institution with authority to grant degrees (see 'university, college...').

Director

The label 'Director,' as it is used in regulations, does not always apply to the same person. For the purposes of O. Reg. 505/01, the appointed Director varies according to different sections of the regulation, as indicated below. For Directors' contact information, refer to **Tab 12** of this kit.

Section of Regulation	Issue	Appointed Director
1(1)	Trained person	Human Resources Branch
1(4)(b)	Equivalent laboratory accreditation	Laboratory Services Branch
5	Submission of engineer's reports and written notices	Environmental Assessment and Approvals Branch
10(2)	Submission of laboratory reports on results of water sample analyses	Environmental Monitoring and Reporting Branch
10(3)	Submission of notice of the identity of the lab carrying out analyses on water samples	Laboratory Services Branch
15	Submission of annual reports	Environmental Monitoring and Reporting Branch
17	Forms	Laboratory Services Branch; Environmental Assessment and Approvals Branch; Environmental Monitoring and Reporting Branch

E. coli

See 'coliforms'.

Fecal coliforms

See 'coliforms'.

Free chlorine residual

See 'chlorine residual'.

Groundwater

Refers to water located in the saturated zone of the earth's crust.

Health care facility

The regulation defines a 'health care facility' as a facility that provides overnight accommodation and that is:

- (a) a hospital within the meaning of the *Public Hospitals Act* or the *Community Psychiatric Hospitals Act*;
- (b) a private hospital within the meaning of the *Private Hospitals Act*;
- (c) a psychiatric facility within the meaning of the *Mental Health Act*;
- (d) a nursing home within the meaning of the *Nursing Homes Act*;
- (e) a home within the meaning of the *Homes for the Aged and Rest Homes Act*;
- (f) certain approved charitable facilities within the meaning of the *Charitable Institutions Act*;
- (g) a cancer centre established by the Ontario Cancer Treatment and Research Foundation under the *Cancer Act*;
- (h) a home for special care within the meaning of the *Homes for Special Care Act*;
- (i) an approved home within the meaning of the *Mental Hospitals Act*;
- (j) a commercially operated residence for seniors or retired persons;
- (k) certain facilities funded through the Underserviced Area Program; or
- (l) certain facilities that receive funding from the Ministry of Health and Long-Term Care.

Heterotrophic plate count

The heterotrophic plate count (HPC) is a procedure for estimating the number of live heterotrophic bacteria in water; where heterotrophic bacteria are those that are unable to synthesize their own food and are dependent on complex organic substances for nutrition. This test can provide useful information about water quality and supporting data on the significance of coliform test results. The HPC test may be performed using the spread plate, pour plate or membrane filtration method.

Human consumption

'Human consumption' in this case includes water for drinking, for use in washbasins, bathtubs, showers, kitchens (i.e. for dish washing) and for food preparation.

Indicator of adverse water quality

Where an ‘indicator of adverse water quality’ is observed, a potential threat to human health is present. Schedule 1 of this regulation lists Indicators of Adverse Water Quality for drinking water. It includes:

1. water directed to users that has not been disinfected;
2. presence of E.Coli or fecal coliforms (see ‘coliforms’);
3. presence of total coliforms (see ‘coliforms’);
4. more than 500 colonies/mL on an HPC (see ‘heterotrophic plate count’);
5. sodium above 20 mg/L;
6. presence of pesticides;
7. free chlorine residual less than 0.05 mg/L if chlorination is used (see ‘chlorine residual’);
8. turbidity more than 1.0 Nephelometric Turbidity Units (NTU) (see ‘turbidity’).

Infiltration gallery

Refers to a subsurface groundwater collection system constructed with open-jointed or perforated pipes that discharge collected water into a watertight chamber.

Interested authority

The ‘interested authority’ is determined based upon the type of facility that is being serviced. For instance, if the facility is classified as a ‘school,’ then the interested authority is the Ministry of Education. In respect to a health care facility, the interested authority is the Ministry of Health and Long Term Care. For a social care facility it is the Ministry of Community and Social Services. For a University or College of Applied Arts and Technology it is the Ministry of Training, Colleges and Universities. And for a delivery agent care facility, it is the designated delivery agent (e.g. the Director of the facility).

Interim Maximum Acceptable Concentration (IMAC)

The IMAC is a health-related standard established for parameters either when there are insufficient toxicological data to establish a MAC (see ‘maximum acceptable concentration’) with reasonable certainty, or when it is not feasible to establish a MAC at the desired level. The Ontario Drinking Water Standards sets IMACs and MACs for a wide range of parameters. For health-related chemical parameters that must be tested under this regulation, IMACs and MACs are listed in Schedule 2.

Maximum Acceptable Concentration (MAC)

The MAC is a health-related standard established for parameters which when present above a certain concentration, have known or suspected adverse health effects. The length of time the MAC can be exceeded without injury to health will depend on the nature and concentration of the parameter. The Ontario Drinking Water Standards sets MACs and IMACs (see ‘Interim Maximum Acceptable Concentration’) for a wide range of parameters. For health-related chemical parameters that must be tested under this regulation, MACs and IMACs are listed in Schedule 2.

Microbiological parameter

Contamination of water supplies by untreated sewage or poorly managed livestock manure runoff presents the greatest risk to public health from microorganisms associated with drinking water. To detect and protect against such organisms, the testing for 'microbiological parameters' and monitoring of chlorine residual is required. Microbiological parameters in this regulation include: total coliform, *E. coli*, fecal coliform and heterotrophic plate count. (See 'coliforms' and 'heterotrophic plate count').

Ministry

Unless otherwise specified, 'ministry' refers to the Ontario Ministry of the Environment (MOE).

Natural environment

The 'natural environment,' as defined in the *OWRA*, is made up of the land, water and air in the Province of Ontario. In this regulation, natural environment generally refers to the environment surrounding a particular building or structure, including the ground beneath the building. As a result, when the regulation requires treatment for water that goes through plumbing that is exposed to the natural environment, it refers to any plumbing that extends beyond the structure of the building, whether above or below ground. If such plumbing is effectively protected from the natural environment by being enclosed in a structure, such as a larger pipe, it is considered not to be in the natural environment.

Ontario Drinking Water Protection Regulation for Larger Water Works - O. Reg. 459/00 (Formerly known as the Ontario Drinking Water Protection Regulation)

Made under the *OWRA*, and part of Operation Clean Water, O. Reg. 459/00 is a comprehensive action plan to give Ontario residents the cleanest and safest drinking water possible. The regulation, which puts into law the Ontario Drinking Water Standards (See 'Ontario Drinking Water Standards'), applies to water treatment and distribution systems that currently require approval under the *OWRA*, including municipal water works and other large systems (See 'Certificate of Approval').

Ontario Regulation 435/93 - Water Works and Sewage Works

Made under the *Ontario Water Resources Act*, this regulation is commonly referred to as 'The Training Regulation.' It classifies water and sewage works for the purpose of determining licencing requirements of operators.

Ontario Drinking Water Standards

The 'Ontario Drinking Water Standards' (ODWS) set standards for health-related parameters that cannot be exceeded and also provides aesthetic objectives and operational objectives. The aim of the ODWS is to ensure that drinking water is safe to drink and aesthetically pleasing. (Note: the Ontario Drinking Water Standards are available in PDF format at: <http://www.ene.gov.on.ca/envision/WaterReg/Pibs4065.pdf>).

Parameter

'Parameter' refers to a measurable or quantifiable characteristic or feature. This regulation requires a number of microbiological and chemical parameters to be tested for in a water sample

analysis (see ‘chemical parameters’ and ‘microbiological parameters’). Schedule 2 lists all of the chemical parameters that must be tested for, and specifies acceptable concentrations for those that are health-related. A description of individual parameters relevant to this regulation can be found in the Ontario Drinking Water Standards (see ‘Ontario Drinking Water Standards’).

Plumbing

The *Building Code Act* defines ‘plumbing’ as a drainage system, a venting system or a water or sewer system and its parts.

Private school

The *Education Act* defines ‘private school’ as any institution that is not organized by the Government of Ontario or a regional/municipal school board, and that provides instruction in elementary and secondary school subjects between the hours of 9 a.m. and 4 p.m. on any school day (days during the school year not holidays), for five or more pupils who are of or over compulsory school age (age six on or before the first day of school in September).

Professional engineer

A ‘professional engineer’ is a person who is licensed by the Professional Engineers of Ontario. For the purposes of this regulation, the professional engineer must be competent to fulfil the requirements of this regulation by virtue of the practitioner’s training and experience.

Provincial officer

A ‘provincial officer’ is a peace officer who has been granted the authority under the *OWRA* to enforce the provisions of the regulation. The authority given under the *Act* allows the officer to investigate offences and prosecute any person whom the provincial officer reasonably believes is guilty of an offence under the *Act*. Under this regulation, provincial officers are also given the authority to post warning notices, as required, if the owner of the water treatment or distribution facility fails to do so.

Public health inspector

Means a public health inspector of a board of health.

School

The *Education Act* defines a ‘school’ as:

- (a) the body of elementary school pupils or secondary school pupils that is organized as a unit for educational purposes under the jurisdiction of the appropriate board, or
- (b) the body of pupils enrolled in any of the elementary or secondary school courses of study in an educational institution operated by the Government of Ontario.

A school also includes the teachers and other staff members associated with the unit or institution and the lands and premises used in connection with the unit or institution.

Note: In this regulation, ‘school’ and ‘private school’ do not overlap (see ‘private school’). If a provision applies to a school, it does not apply to a private school, unless it specifically says it does.

Social care facility

A 'social care facility' refers to:

- (a) facilities subject to the *Development Services Act*
- (b) children's residences licensed under the *Child and Family Services Act*;
- (c) facilities where child development, child treatment, child welfare, young offender or community support services (within the meaning of the *Child and Family Services Act*) are provided, unless they are located in a private residence;
- (d) facilities where child and family intervention services (within the meaning of Reg. 70 of the Revised Regulations of Ontario under the *Child and Family Services Act*) are provided, unless they are located in a private residence;
- (e) emergency shelters funded under the *Ministry of Community and Social Services Act*, unless they are located in a private residence;
- (f) day nurseries;
- (g) sheltered workshops funded under the *Developmental Services Act* or the *Ministry of Community and Social Services Act*;
- (h) facilities where supported employment programs funded under the *Developmental Services Act* or the *Ministry of Community and Social Services Act* are provided;
- (i) facilities where adult's community support services funded under the *Development Services Act* are provided, unless they are located in private residence;
- (j) facilities where employment preparation, training and job placement programs funded under the *Development Services Act* or the *Ontario Disability Support Program Act* are provided;
- (k) facilities where violence against women programs funded by the *Ministry of Community and Social Services Act* are provided, unless they are in a private residence;
- (l) facilities where aboriginal healing and wellness programs are provided.

Surface water

'Surface water' refers to water that rests upon the Earth's surface. It includes all lakes, rivers and streams. Under this regulation, a water treatment or distribution system that obtains water from an infiltration gallery or from a well, any part of which is within 15 metres of surface water, is treated as if it obtained water from a surface water source.

Trained person

Under this regulation, the qualifications of a 'trained person' differ depending on whether or not the subject water works owner requires a Certificate of Approval (see 'Certificate of Approval'). If the water works owner requires a C of A, then a 'trained person' is one who holds a Class I, Class II, Class III or Class IV water treatment facility operator's licence or water distribution facility operator's licence issued under O. Reg. 435/93 (see 'Ontario Regulation 435/93 – Water Works and Sewage Works'). If the water works owner does not require a C of A, then a 'trained person' is one who, in the preceding 36 months, successfully completed a course approved by the Director (MOE Human Resources Branch) that relates to water quality protection as it is addressed in this regulation. Refer to **Tab 6** in this kit for information on required and acceptable training.

Total coliforms

See 'coliforms'.

Turbidity

'Turbidity' is a measure of the clarity of water. 'Turbidity' or 'cloudiness' in water is caused by the presence of tiny suspended particles of matter such as clay, silt, spores, plankton and other microorganisms. Particles can shield microorganisms from being killed by disinfectants such as chlorine.

University, college of applied arts and technology, or institution with authority to grant degrees

Refers to both public and private post-secondary educational institutions. Public institutions are those where enrolment is counted for the purposes of calculating its entitlement to annual operating grants from the Government of Ontario. Eligible private institutions are those that have restricted authority to grant degrees.

Warning notice

A 'warning notice' is a written notice to all persons that consume the water at a designated facility (see 'designated facility') that the water may not be safe to consume. The warning notice must be posted in a prominent location, such as the front entrance of the designated facility where it is most likely that the notice will be seen. A warning notice must be posted at the designated facility if the water treatment facility that supplies water to that designated facility has:

- (a) failed to sample for microbiological parameters as is required by regulation, or
- (b) if an indicator of adverse water quality is observed and corrective actions (see Corrective Action) have not been undertaken, or
- (c) if an indicator of adverse water quality is observed and that indicator requires that water use be stopped or that water be boiled.

Water works

The *OWRA* defines a water works as any works for the collection, production, treatment, storage, supply and distribution of water, or any part of such works, but does not include plumbing to which the *Building Code Act* applies (see 'plumbing').

Water distribution system

The *OWRA* defines a water distribution system as any part of a water treatment or distribution system that distributes water, if that part of the system includes one or more water works (see 'water works,' 'water treatment or distribution system').

Water treatment or distribution system

The *OWRA* defines a water treatment or distribution system as a system for collecting, producing, treating, storing, supplying or distributing water that includes one or more water works (see 'water works').

4

YOUR RESPONSIBILITIES AS A WATER WORKS OWNER SUBJECT TO O. REG. 505/01

There are a number of requirements that you must meet to comply with the regulation. To assist you in understanding your full range of responsibilities as a water works owner, this portion of the kit explains each of the regulatory requirements that apply to you, presenting them in sequence as they appear in O. Reg. 505/01.

A summary of your responsibilities as a water works owner in complying with O. Reg. 505/01.

	Your responsibilities	Where to find more information...	
		In this kit	In the regulation
A	Be certain that the regulation applies to your water works	Page 18	Section 2
B	Determine if you are exempt from requiring approval under the Ontario Water Resources Act	Page 18	Section 3
C	Provide the minimum level of treatment at your water works	Page 18	Section 4
D	Notify the MOE and the interested authority whether you comply with the minimum treatment requirements	Page 21	Section 5
E	Operators of schools, private schools and day nurseries flush plumbing each week (Note: this section applies to operators of designated facilities, not water works owners)	Page 24	Section 6
F	Periodically check all disinfection and filtration equipment	Page 25	Section 7
G	Regularly sample and test your water quality	Page 26	Sections 8 and 9
H	Follow the rules when using a lab to analyze your water samples	Page 26	Section 10
I	If your samples show there is a water quality problem, notify the appropriate people/agencies	Page 29	Section 11
J	If your samples show there is a water quality problem, take action to protect the users of your water	Page 30	Section 12
K	Post a warning notice if necessary	Page 30	Section 13
L	Make required information available at the designated facility	Page 32	Section 14
M	Submit an annual report	Page 33	Section 15
N	Retain required reports and documents	Page 34	Section 16
O	Use correct forms when required	Page 34	Section 17
P	The purpose of notifying interested authorities	Page 34	Section 18

**A. Be certain that the regulation applies to your water works
(Regulation section 2)**

This regulation applies to your water works if you meet both of the following conditions:

- ☒ You are not subject to the Drinking Water Protection Regulation for Larger Water Works – O. Reg. 459/00.
- ☒ Your water works supplies water used for human consumption at a designated facility.
Note: For the purposes of this regulation:
 - Water used for human consumption includes water used in washbasins, bathtubs, showers, kitchens and food preparation areas.
 - A designated facility is any one of the facilities listed in Box 1 on page 2.

However, if your water works obtains all of its water from another water works that is subject to this regulation or to O. Reg. 459/00, then your water works is exempt, and you are not subject to this regulation.

**B. Determine if you are exempt from requiring approval under the Ontario Water Resources Act (OWRA)
(Regulation section 3)**

If your water works is subject to this regulation, and obtains its water from a groundwater source, then you are exempt from requiring a Certificate of Approval under sub-sections 52(1) and (3) of the *OWRA*.

In order to be exempt from requiring a Certificate of Approval (C of A), your water works must not obtain any water from a surface water source. Under this regulation, the following are considered to be surface water sources:

- A well with any part within 15 metres of surface water;
- An infiltration gallery (refer to the Glossary of Terms).

If you are uncertain of your water source, and whether or not you are exempt from requiring a Certificate of Approval under the *OWRA*, then contact the Director of Environmental Assessment and Approvals Branch at tel: 416-314-8001 or toll free at 1-888-461-6290.

**C. Provide the required level of treatment at your water works
(Regulation section 4)**

As a water works owner, you must treat your water. To meet the regulation's mandatory treatment requirements, you must, at the very least, ensure that at your water works:

- wells are constructed and maintained to prevent surface water and other foreign materials from entering them;
 - appropriate water treatment equipment is provided (see Box 3 on page 20);
 - water treatment equipment is operating whenever water is being obtained or supplied;
 - water treatment equipment is operated such that it achieves the capabilities it is required to have (see Box 3 on 20);
 - water treatment equipment is properly maintained;
 - written operating instructions for the water treatment are kept near the equipment;
 - adequate supplies of chemicals (or other materials necessary for operating the water treatment equipment) are:
 - clearly marked,
 - kept nearby the equipment, and
 - separated from other chemicals and materials that are not used for the water treatment or distribution system;
 - replacement parts (for those parts that need to be replaced periodically) are kept nearby;
- and
- a trained person performs any necessary adjustments/maintenance work on the water treatment equipment (see **Tab 6** in this kit for information on training).

The deadline for meeting these minimum treatment requirements is:

September 1, 2002 for water works serving schools; and December 31, 2002 for those serving all other designated facilities.

BOX 3: WHAT IS 'APPROPRIATE WATER TREATMENT EQUIPMENT'?

Under section 4 of the Drinking Water Protection Regulation for Smaller Water Works Serving Designated Facilities, water works must meet minimum levels of treatment. As part of the minimum requirements, water works owners must ensure that appropriate water treatment equipment is provided at their water works. These requirements override any less stringent requirements that may exist in a C of A issued before December 19, 2001.

The regulation provides three different descriptions of appropriate water treatment equipment, tailored for:

1. water works that obtain their water from a groundwater source;
2. water works that obtain their water from a surface water source; and
3. water works having any part of their water distribution system or plumbing in the natural environment.

It is essential that water works owners provide the water treatment equipment that is appropriate for their type of system.

Appropriate water treatment equipment - groundwater source

This includes the following disinfection equipment:

- chlorination that meets the conditions described in clause 4 (2)(a) of the regulation; or
- another form of disinfection that meets the conditions described in clause 4(2)(b) of the regulation.

Appropriate water treatment equipment - surface water source

This includes the following filtration and disinfection equipment:

- filtration and disinfection that meets the conditions described in clause 4(3)(a) of the regulation;
- equipment that is equal to or better than filtration and chlorination that meets the conditions described in clause 4(3)(b) of the regulation; or
- that is required by a Certificate of Approval issued on or after December 19, 2001.

Appropriate water treatment equipment - distribution system or plumbing in the natural environment

This includes the following disinfection equipment:

- chlorination equipment that meets the conditions described in clause 4 (6)(a) of the regulation; or
- another form of disinfection equipment that is equivalent or better than chlorination that meets the conditions described in clause 4(6)(b) of the regulation.

Note: Piping that is buried underground, for example, is considered to be in the natural environment, while plumbing contained within a building is not.

In cases where a distribution system in the natural environment links several facilities served by the system, the regulation allows for the use of point-of-entry treatment at each building in lieu of chlorinating the distribution system.

D. Notify the MOE and the interested authority whether you comply with minimum treatment and equipment requirements (Regulation section 5)

You must submit a notice, either as a written notice form or an engineer's report, to the MOE and the interested authority to inform them of the status of your compliance with minimum treatment and equipment requirements.

If you have a C of A for your water works, then you do not have to submit a written notice or engineer's report.

BOX 4: SUMMARY OF THE TWO TYPES OF NOTICE UNDER SECTION 5 OF O. REG. 505/01

1. A written notice (of non-compliance)

- for water works that commenced operation before December 19, 2001 and do not meet minimum treatment and equipment requirements;
- describes the water works' plan of action to meet requirements by deadline;
- sets out a timetable for action;
- must be followed-up by an engineer's report.

Refer to Tab 8 for a copy of the form 'Notice of Non-compliance with Minimum Treatment Requirements.'

2. An engineer's report

- confirms water works' compliance with minimum treatment and equipment requirements;
- certifies that minimum treatment requirements laid out in section 4 of the regulation are being complied with;
- certifies that all equipment required in order to carry out periodic checks in compliance with section 7 of the regulation is provided.

The type of notice you must send depends on when your water works commenced operation, whether it complies with treatment and equipment requirements, and by what date it is/was able to meet those requirements.

Already operating but not complying

If your water works commenced operation before December 19, 2001, and does not meet the minimum treatment and equipment requirements (i.e. regulation sections 4 and 7), then you must submit a written notice declaring your current non-compliance, and planned actions to meet minimum treatment requirements. Use the form provided by the Ministry, entitled 'Notice of Non-compliance with Minimum Treatment Requirements' (see **Tab 8**).

The submission deadline for the written notice is:

- The 60th day after December 19, 2001 (i.e. February 17, 2002) if your water works serves a school;
- The 90th day after December 19, 2001 (i.e. March 19, 2002) if your water works serves a health care facility or a delivery agent care facility (but not a school); or
- The 120th day after December 19, 2001 (i.e. April 18, 2002) if your water works does not serve a health care facility, delivery agent care facility, or school. (Note: private schools fit into this category).

Once you have submitted your written notice, and made the changes indicated therein, you then submit an engineer's report that confirms your compliance with minimum treatment and equipment requirements.

The submission deadline for an engineer's report (by water works that previously submitted a written notice) is:

- October 1, 2002 if your water works serves a school;
- January 30, 2003 if your water works serves any other type of designated facility; or
- Within 30 days of the water works commencing operation, whichever is earlier.

Example:

Your water works has been serving a designated facility prior to December 19, 2001. When you read the new Drinking Water Protection Regulation for Smaller Water Works Serving Designated Facilities, you are uncertain whether your water works meets the necessary requirements, and you hire a professional engineer to assess your compliance. The engineer finds that you are not meeting the minimum treatment requirements and so advises on ways to correct the problem. You prepare a written notice of your current non-compliance and of the changes/alterations you plan to make in order to meet the requirements, by completing the form entitled 'Notice of Non-Compliance with Minimum Treatment Requirements' (see **Tab 8**). You submit the completed notice form to the MOE and the interested authority for the designated facility by the submission deadline.

Once alterations at your water works are complete, and the engineer confirms that you now comply with the requirements, he/she prepares a report. You submit the engineer's report to the MOE and the interested authority by the submission deadline.

Already operating and complying

If your water works commenced operation before December 19, 2001, and already meets the minimum levels of treatment and equipment requirements (i.e. sections 4 and 7 of the regulation), then you must submit an engineer's report.

The submission deadline for an engineer's report (by water works that are already operating and complying) is:

- The 60th day after December 19, 2001 (i.e. February 17, 2002), if your water works serves a school;
- The 90th day after December 19, 2001 (i.e. March 19, 2002) if your water works serves a health care facility or a delivery agent care facility (but not a school); or
- The 120th day after December 19, 2001 (i.e. April 18, 2002) if your water works does not serve a health care facility, delivery agent care facility, or school.

Similarly, if your water works commenced operation before December 19, 2001 and does not immediately meet the requirements, but is capable of meeting the requirements in time for you to submit an engineer's report by the submission deadline, then you submit an engineer's report. In this situation, it is not necessary for you to complete and submit a written notice of non-compliance form first.

Example:

Your water works has been serving a designated facility prior to December 19, 2001. You have read the new Drinking Water Protection Regulation for Smaller Water Works Serving Designated Facilities, and you are fairly certain your water works is able to meet all the minimum treatment and equipment requirements. You hire a professional engineer to assess your water works. The engineer finds that you are indeed able to meet the requirements and prepares a report that certifies this. You submit the engineer's report to the MOE and to the interested authority for the designated facility by the submission deadline.

Newly Operating

If your water works was established, altered, extended or replaced after December 19, 2001, then you must submit an engineer's report.

The submission deadline for an engineer's report (by water works that are newly operating) is within 30 days of the water works commencing operation.

Example:

You altered/built a new water works on or after December 19, 2001. In building/altering your water works, you paid close attention to the new Drinking Water Protection Regulation for Smaller Water Works Serving Designated Facilities (and most likely consulted with an engineer), to ensure that you would meet all necessary treatment and equipment requirements. Shortly after you start operating your water works, you hire a professional engineer (i.e. the one you likely consulted with) to assess your water works. The engineer finds that you meet the requirements

and prepares a report that certifies this. You submit the engineer's report to the MOE and the interested authority for the designated facility by the submission deadline.

Who to send the notice to

Send the written notice of non-compliance and/or engineer's report, via fax or courier, to:

- **The Ministry of the Environment**
Director, Environmental Assessment and Approvals Branch
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario M4V 1L5
Tel: 416-314-8001 (Toll free 1-800-461-6290)
Fax: 416-314-8452

and

- The **interested authority** for the designated facility (see 'interested authority' in the Glossary of Terms, **Tab 3**). Be sure to have the contact information of the interested authority for the designated facility your water works serves. Contact information for some interested authorities is provided in **Tab 12** of this kit.

Note: If the designated facility is a private school or a commercial seniors residence/retirement home, then you do not have to send the notice or report to the interested authority.

E. The plumbing is flushed at schools, private schools and day nurseries each week (Regulation section 6)

The requirements of this section of the regulation do not apply to water works owners, but rather, are the responsibility of school, private school, and day nursery operators. Operators of such designated facilities must ensure that:

- the water in the plumbing is flushed on the first day that the school, private school or day nursery is open each week;
- the flushing continues until the temperature of the water stabilizes;
- the flushing is complete before the school, private school or day nursery opens for the day; and
- a record is made of the date and time of every flushing, and the name of the person who performed the flushing.

Flushing should ensure that users do not consume stale water from commonly used points of water consumption at the designated facility.

In some cases, the water works owner and the designated facility operator may be the same person. Or, where the water works owner and the designated facility operator are not the same person, it is possible that the school, private school, or day nursery operator may ask the water works owner (or the person performing daily checks at the water works) to carry out the flushing. If so, this is an arrangement that must be made between the water works owner and the school/nursery operator.

**F. Periodically check all disinfection and filtration equipment
(Regulation section 7)**

As the water works owner, you must ensure that:

- disinfection and filtration equipment is checked weekly to confirm that it is functioning properly;
- equipment checks are conducted by a trained person (see 'Trained Person' in the Glossary of Terms in **Tab 3** of this kit);
- free chlorine residual (if using chlorination) is measured daily in water from the distribution system or plumbing that serves the designated facility (i.e. in the pipes that take water toward the facility);
- free chlorine residual measurements are either performed by:
 - a trained person, using an electronic direct readout colourimetric or amperometric chlorine analyzer (or equivalent device), or
 - automated sampling and testing equipment that meets all rules in sub-section 7(5) of the regulation;
- turbidity (if using filtration) is measured daily in water that has been filtered but not yet disinfected;
- turbidity measurements are either performed by:
 - a trained person, using a turbidity meter that measures in Nephelometric Turbidity Units (NTU), or
 - automated sampling and testing equipment that meets all rules in sub-section 7(5) of the regulation; and
- for each check or measurement, a record is made of:
 - the date and time of the check or measurement,
 - the name of the person who performed it, and
 - the results.

Note: You must meet all periodic checks requirements once your equipment meets the requirements of the regulation. The latest possible date to meet the equipment and periodic checks requirements is by September 1, 2002 if your water works serves a school; and by December 31, 2002 if your water works serves any other type of designated facility.

**G. Sample and test your water quality regularly
(Regulation sections 8 and 9)**

As a water works owner, one of the most important things you must do is ensure that regular samples of your water are taken and analyzed for microbiological parameters (regulation section 8) and chemical parameters (regulation section 9). Either you or a qualified staff at your water works can collect the samples. An accredited lab must perform the analytical tests for microbiological and chemical parameters. How often the samples have to be collected, and from where, depend on the type of test being performed.

Table 1 outlines the sampling and analysis requirements that you, as a water works owner, must ensure are met. For more details, refer to sections 8 and 9 of the Regulation.

The way you collect water samples will affect the accuracy of your test results! See Tab 5 in this kit for step-by-step instructions on how to properly collect water samples.

**H. Follow the rules when using a lab to analyze your water sample
(Regulation section 10)**

When you send your water samples to a lab to be analyzed, there are a number of conditions you and the lab must meet. It is up to you to ensure each of the following:

- The lab is accredited to test for the parameter for which you are sending your water sample to be analyzed. Not all labs are accredited to test for all parameters. Be sure that the lab is accredited for each parameter it is testing by checking the MOE Website or by asking the lab to supply you with their current Standards Council of Canada (SCC) Scope of Accreditation.
- If the lab doing the analysis is located outside Ontario, then:
 - you provide the lab with a copy of the Regulation;
 - the lab agrees to comply with the reporting requirements detailed in Sub-section 10(2), and the notification requirements detailed in sub-section 11(2).

Refer to Tab 9 in this kit for information on identifying and selecting an accredited commercial lab(s). An up-to-date listing of accredited commercial labs can be found online at www.ene.gov.on.ca

- At least three days before you send your samples to the lab(s) for the first time, you send a completed form to the MOE identifying the lab(s) that will be carrying out the analyses for each parameter. This form is called 'Notification of Laboratory Services Provided to Water Works Subject to O. Reg. 505/01.' You may request the lab to fill out portions of this form for you, however, it must be signed by the water works owner and subsequently faxed to the MOE. This form can be found in **Tab 8** of this kit.
- Once you have submitted the Notification of Lab Services form, you don't have to submit it again unless you change a lab or their testing services used to analyze a parameter.

It is the responsibility of the lab to ensure that they send to you (and the MOE), a report of all results within 14 days of your water samples being analyzed.

**Table 1. SAMPLING AND ANALYSIS REQUIREMENTS FOR WATER WORKS
(UNDER SECTIONS 8 AND 9 OF O. REG. 505/01).**

	Microbiological parameters	Chemical parameters
How often to collect samples (at least)	For treated water samples: <ul style="list-style-type: none"> • Once a week if not chlorinating¹ • Once every two weeks if chlorinating¹ AND For raw water samples: <ul style="list-style-type: none"> • Once a month 	<ul style="list-style-type: none"> • Once every 60 months (i.e. a five year period)
Specific parameters to measure	<ul style="list-style-type: none"> • Total coliforms • <i>E. coli</i> or fecal coliforms • HPC (<i>only in treated water samples</i>) 	<ul style="list-style-type: none"> • All parameters listed in Schedule 2 of the Regulation
Where to collect samples	For treated water samples: <ul style="list-style-type: none"> • from the distribution system or plumbing that serves the designated facility AND For raw water samples: <ul style="list-style-type: none"> • from the untreated water source (and if using groundwater, then from each well) 	<ul style="list-style-type: none"> • Treated water from the distribution system or plumbing that serves the designated facility
Who performs analysis for parameters	<ul style="list-style-type: none"> • A lab accredited for testing the parameter 	<ul style="list-style-type: none"> • A lab accredited for testing the parameter
During which season water must be sampled and analyzed	<ul style="list-style-type: none"> • All year round OR • If the designated facility served is open/closed seasonally, then only during the operating season² 	<ul style="list-style-type: none"> • Not applicable (could be during any season, since testing only once every five years).
By what date first samples must be taken after O. Reg. 505/01 comes into force	<ul style="list-style-type: none"> • 60 days after December 19, 2001 (i.e. February 17, 2002) 	For water works already operating before December 19, 2001, by: <ul style="list-style-type: none"> • the 90th day after December 19, 2001 (i.e. March 19, 2002) if water works serves a school; • the 180th day after December 19, 2001 (i.e. June 17, 2002) if water works serves health care facility or delivery agent care facility but not a school; or • the 270th day after December 19, 2001 (i.e. September 15, 2002) if water works serves any other kind of designated facility (and not the ones listed above). OR For water works commencing operation after December 19, 2001: <ul style="list-style-type: none"> • within first three months of operation

¹ If, for a period of 24 consecutive months, none of your samples indicates adverse water quality (as described in Schedule 1), then sampling frequency may be reduced to: once every two weeks if not chlorinating, and once every four weeks if chlorinating. However, if any two samples in a 24-month period indicate adverse water quality, then you must immediately return to the original sampling frequency as described above in the table.

² Prior to the start of each operating season, the first sample must be taken so that test results are received before the designated facility opens for the season.

I. If your samples show there is a water quality problem, notify the appropriate people (Regulation section 11)

As soon as you become aware that the result of a drinking water sample tested by a laboratory or that any condition observed, as required by this regulation, indicates:

- a) adverse water quality (refer to Schedule 1 of the regulation, and Box 5 on page 30 in this kit), or
- b) that a parameter exceeds its MAC or IMAC (refer to Schedule 2 of the regulation), you must do each of the following:

1. Immediately notify the:

- local Medical Officer of Health, by speaking with someone in person or on the telephone, at your local Public Health Unit (see **Tab 10** in this kit for a list of Public Health Units);
- MOE, by speaking with someone in person or on the telephone, at the Spills Action Centre (Tel: 1-800-268-6060); and
- operator of each designated facility served by your water works (unless you are the operator of the designated facility and the owner of the water works), by speaking with a responsible individual in person or on the telephone, at the facility.

2. Within 24 hours of giving the immediate verbal notice, deliver written notice using the form entitled "Notice of problems in water quality and remedial actions taken by water works subject to O. Reg. 505/01" (see **Tab 8**). The written notice confirms the problem and confirms that appropriate corrective action is being taken. Send the written notice to the:

- local Medical Officer of Health (see **Tab 10** in this kit for a listing of public Health Units)
- MOE Spills Action Centre (FAX: 1-800-268-6061);
- operator of each designated facility served by your water works (unless you are the operator of the designated facility and the owner of the water works) (note: be sure to have available the appropriate contact information for designated facilities served by your water works); and
- interested authority for each designated facility served by your water works, unless the designated facility is a private school or a commercial seniors residence/retirement home (note: see **Tab 12** in this kit for contact information for interested authorities).

3. Once you have resolved the issue that gave rise to the notice, deliver, within 30 days, a follow-up written notice summarizing the action taken and results achieved to the interested authority.

BOX 5: INDICATORS OF ADVERSE WATER QUALITY

Water that is not safe for drinking is considered to be of 'adverse' quality. You treat and monitor the quality of your water in order to ensure that it is safe.

Each of the following is an indicator of adverse water quality (as described in Schedule 1 of the regulation):

- water that is not disinfected is directed to users
- *E. coli* or fecal coliform is detected in treated water
- total coliforms are detected (but not fecal coliforms) in treated water
- more than 500 colonies/mL are detected in an HPC test of treated water
- sodium concentration exceeds 20 mg/L
- a pesticide NOT listed in Schedule 2 is detected
- if chlorination is used, free chlorine residual is less than 0.05 mg/L
- if filtration is used, the turbidity is more than 1.0 NTU

J. If your samples show there is a water quality problem, take action to protect the users of your water (Regulation section 12)

In the event that your water samples indicate adverse quality, not only must you notify the appropriate people (as described above), but you must also take corrective action to protect the users of your water. There are different types of corrective action depending on the type of water quality problem you find in your samples.

Schedule 1 of the regulation describes different indicators of adverse water quality, and the associated corrective action to take. These are summarized in **Table 2** on page 35.

K. Post a warning notice if necessary (Regulation section 13)

When it is necessary to post a warning notice

You must post a warning notice if your water works:

- does not comply with the sampling and analysis requirements for microbiological parameters (as described in section 8 of the regulation);
- has not taken appropriate corrective action (as specified in Schedule 1 of the regulation); and/or
- must, as a corrective action, stop using the water or must boil the water.

Note:

If you fail to post a warning notice at a designated facility served by your water works, a provincial officer, public health officer or officer of the interested authority may do so.

Where to post the warning notice

Post the notice:

- in a prominent location where it is likely to be seen by those using the water; and
- at each designated facility served by your water works. If the designated facility consists of more than one building, then post a notice at each building.

Recommended wording

PUBLIC NOTICE:
This water has not
been tested for
drinking purposes

PUBLIC NOTICE:
Do not drink this
water

PUBLIC NOTICE:
Boil water before
drinking

Where to obtain a warning notice

Contact the MOE's Public Information Centre at Tel.: 1-800-565-4923



**L. Make information available at the designated facility
(Regulation section 14)**

You must make certain reports and documents available at each designated facility served by your water works, so that interested persons may read them on-site, free of charge, during normal business hours. These include copies of:

- every report (not older than two years) given to you by the lab on test results for microbiological and chemical parameters (Note: these lab reports are to be available at the designated facility the day after you receive them from the lab);
- every approval and order or direction under the *Ontario Water Resources Act* that applies to your water works and that is still in effect, if it was issued after December 19, 2001.
- every annual report (not older than two years) prepared under section 15 of the regulation; and
- a copy of O. Reg. 505/01.

**M. Submit an annual report
(Regulation section 15)**

Each year you must report on the operation of your water works and quality of your drinking water, according to the following requirements:

Cover period... from August 1 of the previous year through to July 31 of the current year.

Submit by... September 1 of each year.

Submit to... **Ministry of the Environment**
Director, Environmental Monitoring and Reporting Branch
125 Resources Road
Toronto, Ontario M9P 3V6
Tel: 416-235-6300
Fax: 416-235-6235

The **interested authority** for the designated facility (unless the designated facility is a private school or a commercial seniors residence/retirement home). Contact information for some interested authorities is provided in **Tab 12** of this kit.

**Include in
report...**

- a brief description of your water works;
- a summary of any engineer's reports or notices of non-compliance submitted to the MOE under section 5 of the regulation (refer to page 21 in this kit);
- a summary of the on-site daily measurements for chlorine residual and turbidity under section 7 of the regulation;
- a summary of the lab results of samples tested for microbiological parameters under section 8 of the regulation;
- a summary of the lab results of samples analyzed for chemical parameters under section 9 of the regulation (note: since you only test for chemical parameters every five years, you may not have results for the current annual reporting period. In this case, use the results from the most recent annual reporting period.);
- a description of any corrective actions taken under section 12 of the regulation (see page 30) and Table 2 (see page 35), in this kit); and
- a description of any major expenses related to treatment equipment required by section 4 of the regulation.

**Provide
copies...** free of charge, to every person who requests the annual report (only for annual reports not older than two years).

Inform users... at the designated facility you supply water to, that an annual report is available free of charge, and provide information on how to obtain a copy.

See Tab 13 in this kit for an example of an annual report.

**N. Retain certain reports and documents
(Regulation section 16)**

Water works owners, laboratories, and schools/day nurseries must keep copies of certain reports and documents on file.

As a water works owner, you must keep copies of:

- For at least five years...*
- every engineer's report or action plan notice prepared under section 5 of the regulation;
 - every record made for periodic checks of your disinfection and filtration equipment, chlorine residual and turbidity as required by section 7 of the regulation;
 - every report given to you by a lab on test results for microbiological parameters as required by section 8 of the regulation; and
 - every annual report prepared under section 17 of the regulation.
- For at least 15 years ...*
- copies of every report given you by a lab on test results for chemical parameters as required by section 9 of the regulation.

**O. Use correct forms when required
Regulation section 17)**

Whether you submit an action plan notice, post a warning notice or submit an annual report, it must be in a form provided by or approved by the MOE. Refer to **Tab 8** for copies of, and information regarding, some of the forms associated with O. Reg. 505/01.

**P. The purpose of notifying interested authorities
(Regulation section 18)**

The regulation requires you to notify the interested authority of the designated facility you serve water to of your compliance with minimum treatment requirements, and of any problems you may experience with adverse water quality. The sole purpose of requiring you to provide such notice to the interested authority is to inform them of your compliance with the regulation.

Table 2. CORRECTIVE ACTIONS TO TAKE WHEN WATER SAMPLES INDICATE ADVERSE WATER QUALITY

Indicator of adverse water quality	Corrective action (as described in Schedule 1 of O. Reg. 505/01)			Consult with...
	Water use	Treatment	Sampling/Analysis	
Water not disinfected	Stop water use or boil water	Disinfect	Resample and analyze	Local Medical Officer of Health
<i>E. coli</i> or fecal coliform detected in treated water	Stop water use or boil water	Increase chlorine dose (if using chlorination) and flush distribution and plumbing system ¹	Resample and analyze	Local Medical Officer of Health
Total coliforms (but not fecal coliforms) detected in treated water	Continue normal water use; or if re-sample confirms positive result, then boil water or stop use	Increase chlorine dose (if using chlorination) and flush distribution system and plumbing ¹	Resample at same site and analyze	Local Medical Officer of Health
HPC detects more than 500 colonies/mL in treated water	Continue normal water use; or if re-sample confirms positive result, then boil water or stop use	Continue with normal treatment	Resample at same site and analyze	Local Medical Officer of Health
Sodium concentration exceeds 20 mg/L	Continue normal water use	Continue with normal treatment	Resample and analyze	Local Medical Officer of Health
Pesticide NOT listed in Schedule 2 is detected	Continue normal water use	Continue with normal treatment	Resample and analyze	Local Medical Officer of Health
If chlorination used, free chlorine residual is less than 0.05 mg/L	Stop water use	If re-sample shows chlorine residual still <0.05 mg/L, then increase chlorine dose (if using chlorination) and flush water distribution system ¹	Resample and analyze	Local Medical Officer of Health
If filtration is used, the turbidity in filter effluent is more than 1.0 NTU	Continue normal water use	If re-sample shows turbidity is still >1.0 N.T.U, then: <ul style="list-style-type: none"> Backwash the filter OR replace the filter cartridge or filter element; AND Flush distribution system and plumbing Examine upstream processes 	Resample and analyze	None required by the regulation

¹ You must ensure a free chlorine residual of at least 0.2 mg/L at all points in the affected part(s) of your distribution system and plumbing.

5

HOW TO COLLECT WATER SAMPLES

The following is only a general overview on sample testing, collection, handling, storage and transport. Ensure that when contracting each laboratory to analyze your samples, you obtain specific written instructions on these issues from the laboratory staff. (In many cases, the laboratory may also provide sample collection services as well.)

In all cases, collect the samples from the location point(s) stipulated in the Regulation.

It is absolutely critical that water samples are collected as specified by the laboratory. Otherwise, inaccurate analyses may occur and result in unnecessary notifications and corrective actions.

Testing for microbiological parameters

This involves the analysis of certain bacteria (coliforms and heterotrophic bacteria).

Sample collection

- Always ensure a clear pathway from the source to the sample collection point by removing aerators, tap screens, hoses, filters, etc. from any tap used during sample collection.
- Always allow the water to run for at least two minutes before collecting drinking water samples.
- Use the sampling bottles provided by the laboratory. These will be sterile, plastic, 250 mL bacteriological sampling bottles containing the preservative sodium thiosulphate.

Note: The purpose of the preservative in the sampling bottles is to prevent the collected water from degrading or becoming contaminated by bacteria. *Do not touch or handle* the preservative. *Do not rinse* the containers, as this will remove some or all of the preservative, and ruin the sample. Ask the laboratory for further instructions if necessary.

Sample handling and storage

- To prevent significant changes in target bacterial populations, the samples should be chilled to about 4°C. (The low temperature slows growth and helps to maintain the target bacterial population at the level that existed at the time of sample collection.)
- Submit samples to the laboratory as quickly as possible after collection.

- For transport to the laboratory, place samples in coolers or in foam pack containers with ice or ice packs.
- Do not allow samples to freeze.

Testing for organic parameters

Organic chemistry is the chemistry of the compounds of carbon. Typical chemicals defined as organic compounds include pesticides, petroleum products, polychlorinated biphenyls (PCBs), phenols, chlorinated or non-chlorinated solvents, etc. Organic compounds can be liquid, solid or gaseous. Some dissolve or mix with water and others do not.

Sample collection

- Take care when collecting these samples as contamination may occur from the outside of the sample containers and other materials such as gloves. (The unstable nature of many organic compounds requires strict adherence to sampling protocols, including the use of proper sample containers and preservatives if recommended.)
- Use sampling bottles provided by the laboratory.
- Sample volume is a major consideration when collecting organic samples; in most cases, a relatively large sample size (500 to 1000 mL) is required.

Sample collection for volatiles

- For samples which require analysis for volatile components (i.e. benzene, toluene, etc.), collect the samples in a manner in which no headspace (air pocket) is left in the bottle.
- To eliminate headspace, fill the container slowly to overflowing, avoiding any mixing or shaking.
- Place the cap on the bottle while the sample is overflowing.

Sample handling and storage

- Submit samples to the laboratory as quickly as possible after collection, or as directed by the lab.
- If the samples must be stored, then keep them refrigerated.
- Ship samples as early in the week as possible because there is no guarantee that couriers will store them in a refrigerator over a weekend.

- Many organic compounds break down or undergo transformations when subjected to light or in the presence of bacteriological activity or chlorine. Light sensitive organic compounds must be collected and submitted in brown glass containers. (Be sure to get clear instructions from the laboratory(s)).

Testing for inorganic parameters

Most laboratories tend to divide the analysis of inorganic compounds into two classes: general chemistry and metals.

General chemistry

These tests include nutrients (nitrate, nitrite) and ions such as fluoride or sodium. For the most part, these tests are performed on water samples to assess the overall quality of the water.

Metals

This group includes commonly known elements such as iron, copper, mercury and manganese.

Sample collection

- Use the sampling bottles provided by the laboratory. If the bottle contains a preservative, *do not touch or handle* the preservative. *Do not rinse* the containers, as this will remove some or all of the preservative, reducing the accuracy of the test results. Ask the laboratory for further instructions if necessary.
- If the sampling bottles provided by the laboratory do not contain a preservative, rinse the bottle and cap with the sample two to three times before filling. (This procedure tends to equilibrate the sample with the container walls, minimizing container effects (such as leaching and adsorption).
- Fill all sampling bottles to the shoulder.
- In general, inorganic compounds are sampled in plastic containers, although glass containers are used for such tests as mercury.

Sample handling and storage

- Submit samples to the laboratory as quickly as possible after collection.
- If the samples must be stored, then keep them refrigerated.
- Ship samples as early in the week as possible because there is no guarantee couriers will store them in a refrigerator over a weekend.

O. Reg. 505/01 requires persons operating a water works serving a designated facility to complete certain training and licensing requirements. The specific requirements depend on the type of water works.

Water works that do not require a Certificate of Approval

If your water works is subject to this regulation and does not require a Certificate of Approval, then a trained person must perform all maintenance and adjustments to the water treatment equipment. A trained person must also perform all free chlorine residual and turbidity tests. See page 18 in this kit or refer to regulation section 3 for more details on determining whether your water works requires a Certificate of Approval.

The regulation defines a 'trained person' as a person who has, in the preceding 36 months, successfully completed a course on water supply approved by the Ministry of the Environment.

A person who holds a valid Class I, II, III or IV Water Treatment or Water Distribution license is also considered a trained person.

The Ministry offers the required training through a correspondence course. This course will be available at no charge until March 31, 2002. Information on the correspondence course, entitled 'Operation of Small Drinking Water Systems,' can be found at www.oetc.on.ca or by calling 416-314-9334. The course can be completed at home on your own time. An exam must be written upon completion of the course. Successful candidates will receive a certificate.

Other training courses on the supply and treatment of drinking water may also be used to meet the requirement of a 'trained person.' See the table below for a partial listing of approved training. A full list of approved courses is available at www.oetc.on.ca

Water works that require a Certificate of Approval

If your water works is subject to this regulation and requires a Certificate of Approval, then a licensed water treatment or water distribution operator is required. The specific level and type of license required are based on the type of water works you own. More information on the licensing requirements can be found in the Program Guide at www.oetc.on.ca or by calling the Operator Certification Office at 905-796-2851.

Training is available to assist operators of subject systems to prepare for writing the Class I Water Treatment exam. This training is a five-day course, available across the province at no charge until March 31, 2002. For more information, visit www.oetc.on.ca or call 416-314-9334 to obtain a brochure. Operators who successfully pass the Class I Water Treatment examination and who verify grade 12 or equivalent and one year of operating experience will be issued a Class I Water

Treatment license. Due to limited class sizes, only water works that require a Certificate of Approval will be eligible to receive classroom training. All other operators of water works serving designated facilities are encouraged to take the correspondence course listed above.

A partial listing of courses approved for the purposes of becoming a 'trained person' in O. Reg. 505/01:

Course	Contact
'Operation of Small Drinking Water Systems' (formerly titled 'Small Seasonal Drinking Water Systems') - offered by the Ministry of the Environment / Ontario Environmental Training Consortium	905-796-2851 www.oetc.on.ca
'Small Water Systems Operation and Maintenance' - offered by California State University	916-278-6142 www.owp.csus.edu
'Water Treatment Plant Operation' - offered by California State University	916-278-6142 www.owp.csus.edu
Any combination of American Water Works Association (AWWA) on-line learning course totaling 14 hours or more	1-800-926-7337 www.awwa.org
Any Ontario Community College drinking water course	Consult your local phone directory
Any drinking water correspondence or related course offered through the Northern Alberta Institute of Technology	1-800-661-4077
Any course offered through the following organizations (provided the course is 1.4 Continuing Education Units or more in duration and includes a final written test by the student):	
• Environmental Training Institute	905-892-1177
• Ontario Good Roads Association	905-795-2555
• Electrical Utilities Safety Association	1-800-263-5024
• Lexicon Environmental Consulting	905-878-1664
• Can-Enviro Courses	705-645-9570
• Technical Learning Courses	519-740-1222
• Tangible Skills Training	905-829-9055

Note:

The Ministry may approve other courses not listed here, upon review of course content, duration, objectives and training manual.

The above list of courses is subject to change. For an up-to-date listing, go to: www.oetc.on.ca

COMPLIANCE CALENDAR FOR PERIODIC MONITORING AND REPORTING REQUIREMENTS

Periodic monitoring and reporting requirements for water works subject to O. Reg. 505/01

	Monitoring water quality and proper functioning of equipment	Preparing and receiving records/reports	Distributing and retaining (on-file) reports/records
Once a day	<p>Measure free chlorine residual in treated water (if using chlorination)¹</p> <ul style="list-style-type: none"> Collect samples from the distribution system or plumbing serving the designated facility. Ensure that a trained person or automated equipment immediately measures free chlorine residual in the samples. <p>(Reg. Section 7)</p>	<ul style="list-style-type: none"> For each sample, make a record of the date and time the sample was tested, the name of person who performed the test, and the test results. <p>(Reg. Section 7)</p>	<ul style="list-style-type: none"> Keep every record made on free chlorine residual tests for at least five years. <p>(Reg. Section 16)</p>
	<p>Measure turbidity in filtered water not yet disinfected (if using filtration)</p> <ul style="list-style-type: none"> Ensure that a trained person or automated equipment immediately measures turbidity in the samples. <p>(Reg. Section 7)</p>	<ul style="list-style-type: none"> For each sample, make a record of the date and time the sample was tested, the name of person who performed the test, and the test results. <p>(Reg. Section 7)</p>	<ul style="list-style-type: none"> Keep every record made on turbidity tests for at least five years. <p>(Reg. Section 16)</p>

Periodic monitoring and reporting requirements for water works subject to O. Reg. 505/01

	Monitoring water quality and proper functioning of equipment	Preparing and receiving records/reports	Distributing and retaining (on-file) reports/records
Once a week	<p>Test for microbiological parameters in treated water (once every two weeks if using chlorination¹ OR once per week if using other form of disinfection²)</p> <ul style="list-style-type: none"> Collect samples from the distribution system or plumbing serving the designated facility. Send samples to a lab accredited for testing (i) total coliforms, and (ii) <i>E. coli</i> or fecal coliforms, and (iii) HPC. <p>(Reg. Section 8)</p>	<ul style="list-style-type: none"> Receive a report from the lab of the analytical results. Note: the lab must send the report within 14 days after analyzing a sample. <p>(Reg. Section 10)</p>	<ul style="list-style-type: none"> Provide each designated facility served by your water works with a copy of every report given to you by the lab. Keep every report given to you by the lab on analytical results for at least five years. <p>(Reg. Sections 14 and 16)</p>
	<p>Check all disinfection and filtration equipment</p> <ul style="list-style-type: none"> Ensure that a trained person checks the equipment to confirm that it is functioning properly <p>(Reg. Section 7)</p>	<ul style="list-style-type: none"> For each equipment check, make a record of the date and time, the name of the person who performed it, and the results. <p>(Reg. Section 7)</p>	<ul style="list-style-type: none"> Keep every record made on checks of disinfection and filtration equipment for at least five years. <p>(Reg. Section 16)</p>

Periodic monitoring and reporting requirements for water works subject to O. Reg. 505/01

	Monitoring water quality and proper functioning of equipment	Preparing and receiving records/reports	Distributing and retaining (on-file) reports/records
Once a month	<p>Test for coliforms in raw water</p> <ul style="list-style-type: none"> Collect samples from the untreated water source; and if using groundwater, then from each well. Send samples to a lab accredited for testing (i) total coliforms and (ii) <i>E. coli</i> or fecal coliforms. <p>(Reg. Section 8)</p>	<ul style="list-style-type: none"> Receive a report from the lab of the analytical results. The lab must send the report within 14 days after analyzing a sample. <p>(Reg. Section 10)</p>	<ul style="list-style-type: none"> Provide each designated facility served by your water works with a copy of every report given to you by the lab. Keep every report given to you by the lab on analytical results for at least five years. <p>(Reg. Sections 14 and 16)</p>
Once a year	<ul style="list-style-type: none"> Not applicable 	<ul style="list-style-type: none"> Prepare annual report 	<ul style="list-style-type: none"> Send annual report to: <ol style="list-style-type: none"> The MOE Director of Environmental Monitoring and Reporting Branch; The interested authority for each designated facility⁴; and Every person who requests a copy. Provide each designated facility served by your water works with a copy. Keep copies of the annual report for at least five years. <p>(Reg. Sections 15; 14 and 16)</p>

Periodic monitoring and reporting requirements for water works subject to O. Reg. 505/01

	Monitoring water quality and proper functioning of equipment	Preparing and receiving records/reports	Distributing and retaining (on-file) reports/records
Once every 5 years	<p>Test for chemical parameters in treated water</p> <ul style="list-style-type: none">• Collect samples from the distribution system or plumbing serving the designated facility.• Send samples to a lab(s) accredited for testing the parameters listed in Schedule 2 of the regulation.	<ul style="list-style-type: none">• Receive a report from the lab of the analytical results. The lab must send the report within 14 days after analyzing a sample.	<ul style="list-style-type: none">• Provide each designated facility served by your water works with a copy of every report given to you by the lab.• Keep every report given to you by the lab on analytical results for at least 15 years.

(Reg. Section 9)

(Reg. Section 10)

(Reg. Sections 14 and 16)

¹ As required according to sections 4(2)(a), 4(3)(a) or 4(6)(a) of O. Reg. 505/01

² Also, if you provide treatment as described in sections 4(2)(b) or 4(3)(b) of O. Reg. 505/01.

³ Copies of required reports must be made available at each designated facility served by the system so that interested persons may read them, free of charge, during normal working hours (e.g. 9 a.m. to 5 p.m.).

⁴ If the designated facility is a private school or a commercial seniors residence/retirement home, then you do not have to send an annual report to the interested authority.

Forms associated with the Drinking Water Protection Regulation for Smaller Water Works Serving Designated Facilities (O. Reg. 505/01)

Name of form	Purpose of form and the relevant section(s) of O. Reg. 505/01	When and to whom to submit the form	Completing the form online
Notification of Laboratory Services Provided to Water Works Subject to O. Reg. 505/01	To notify MOE of the identity of the lab(s) carrying out the required analyses on your water samples, and the specific parameters being tested by each lab.	<p>Submit the form at least 3 days before a lab analyzes your samples for the first time, and re-submit it if there are any changes in lab, testing or water works information.</p> <p>Submit the form to:</p> <ul style="list-style-type: none"> • Director, MOE Lab Services Branch. 	<p>The form can be filled out online via the Drinking Water Website System (DWWS) at www.environment.gov.on.ca. Or, you may wish to print the form, fill out the hardcopy and fax it to the MOE for their input into the DWWS.</p> <p>Click on the [help] link in the upper left corner of the Drinking Water Website System (DWWS) for instruction.</p> <p>Important: You must PRINT the completed form, sign it, and submit the signed hardcopy via fax or post. You cannot <u>submit</u> the form online.</p>
Notice of Problems in Water Quality and Remedial Actions Taken by Water Works Subject to O. Reg. 505/01	To provide written notice in the event that any problems are found in your water quality and the remedial actions you will take to correct the problem(s).	<p>Within 24 hours of giving the required immediate verbal notice of problems, water works owners must submit the form to:</p> <ul style="list-style-type: none"> • The MOE Spills Action Centre; • The local medical Officer of Health; • The operator of each designated facility your water works serves²; and • The interested authority for the designated facility². 	<p>The form can not be filled out or submitted online at this time. However, the form can be downloaded from the MOE website at www.ene.gov.on.ca, printed, and filled out manually. You then fax the hardcopy to the required persons/locations.</p>

Reg. Section 11

Forms associated with the Drinking Water Protection Regulation for Smaller Water Works Serving Designated Facilities (O. Reg. 505/01)

Name of form	Purpose of form and the relevant section(s) of O. Reg. 505/01	When and to whom to submit the form	Completing the form online
Notice of Non-compliance with Minimum Treatment Requirements of O. Reg. 505/01, and Proposed Action	To notify the MOE of your plans to meet the minimum treatment requirements by the required deadline.	Timing of submission will vary. Refer to section 5 of the Regulation for details, or to pages 21-24 in this kit. Submit the form to Environmental Assessment and Approvals Branch.	The form can not be filled out or submitted online at this time. However, the form can be downloaded from the MOE website at www.ene.gov.on.ca , printed, and filled out manually. You then fax the hardcopy to the required persons/locations.

¹ You do not need to submit the form to the operator of the designated facility if are the operator of the facility and the water works owner

² You do not need to submit the form to the interested authority if the designated facility your water works serves is a private school or commercial seniors residence/retirement home.

A copy of each of these forms is available in the appendix.
To obtain additional copies of any of the above forms,
refer to the Ministry of the Environment website at:
www.ene.gov.on.ca.

9

ACCREDITED LABS

When you send your water samples to a laboratory for testing, it is essential that the lab is accredited for each specific parameter it tests. While some labs may be accredited to test the full suite of microbiological and chemical parameters required by sections 8 and 9 of the regulation, others may be accredited for testing only microbiological parameters, and/or only some chemical parameters. The lab(s) analyzing your samples must be accredited for each test performed.

To obtain a current listing of commercial accredited labs:

- 1) Refer to the MOE website at www.ene.gov.on.ca.
- 2) Contact the MOE Lab Services Branch at tel: 416-235-6311, fax: 416-235-6312 or e-mail helpdesk@ene.gov.on.ca.

and/or

- 3) Contact a lab directly and ask them about their accreditation status.

To contact the local Medical Officer of Health, contact your local Public Health Unit.

Note: The following list is subject to change. Up-to-date contact information for public health units can be found online at the Ministry of Health and Long-Term Care (MOHLTC) website at www.gov.on.ca/health (click on 'Public Health Units'). Or, call the MOHLTC info-line at 1-800-268-1154 (Toll-free in Ontario only) or 416-314-5518.

CENTRAL EAST REGION

Simcoe County District Health Unit

15 Sperling Drive
Barrie, Ontario
L4M 6K9, Canada
Tel : (705) 721-7330
Fax : (705) 721-1495
Web : www.simcoehealth.org

York Region Health Services Department

Box 147, 17250 Yonge Street
Newmarket, Ontario
L3Y 6Z1, Canada
Tel : 905-895-4511
Fax : 905-895-3166
Toll : 1-800-361-5653 (Health Connection
Line)
Web : www.region.york.on.ca

Peterborough County-City Health Unit

10 Hospital Drive
Peterborough, Ontario
K9J 8M1, Canada
Tel : (705) 743-1000
Fax : (705) 743-2897
Web : pcchu.peterborough.on.ca

Haliburton, Kawartha, Pine Ridge District Health Unit

200 Rose Glen Road
Port Hope, Ontario
L1A 3V6, Canada
Tel : 905-885-9100
Fax : 905-885-9551
Web : www.hkpr.on.ca

Regional Municipality of Durham Health Department

1615 Dundas Street East
Lang Tower, Suite 210
Whitby, Ontario
L1N 2L1, Canada
Tel : 905-723-8521 / Toronto Line : 905-686-
2740
Fax : 905-723-6026
Web : www.region.durham.on.ca

CENTRAL SOUTH REGION

Brant County Health Unit

194 Terrace Hill Street
Brantford, Ontario
N3R 1G7, Canada
Tel : (519) 753-4937
Fax : (519) 753-2140
Web : www.bchu.org

City of Hamilton Social and Public Health Services Division

P.O. Box 897
25 Main Street West, 4th Floor
Hamilton, Ontario
L8N 3P6, Canada
Tel : 905-546-3500
Fax : 905-546-4075
Web : www.health.hamilton-went.on.ca

CENTRAL WEST REGION

Peel Regional Health Unit

44 Peel Centre Drive, Suite 102
Brampton, Ontario
L6T 4B5, Canada
Tel : 905-799-7700
Fax : 905-789-1604
Web : www.region.peel.on.ca/health

Wellington-Dufferin-Guelph Health Unit

205 Queen Street East
Fergus, Ontario
N1M 1T2, Canada
Tel : (519) 843-2460
Fax : (519) 843-2321

Regional Municipality of Haldimand- Norfolk Health Department

P. O. Box 247
12 Gilbertson Drive
Simcoe, Ontario
N3Y 4L1, Canada
Tel : (519) 426-6170
Fax : (519) 426-9974
Web : www.haldimand-norfolk.org

Regional Niagara Public Health Department

573 Glenridge Avenue
St. Catharines, Ontario
L2T 4C2, Canada
Tel : 905-688-3762
Toll : 1-800-263-7248
Fax : 905-682-3901
Web : www.regional.niagara.on.ca/health

Halton Regional Health Department

1151 Bronte Road
Oakville, Ontario
L6M 3L1, Canada
Tel : 905-825-6060
Fax : 905-825-8588
Web : www.region.halton.on.ca/health

Regional Municipality of Waterloo, Community Health Department

P.O. Box 1633
99 Regina Street South
Waterloo, Ontario
N2J 4V3, Canada
Tel : (519) 883-2000
Fax : (519) 883-2241
Web : www.region.waterloo.on.ca/health

EAST REGION

Hastings and Prince Edward Counties Health Unit

179 North Park Street
Belleville, Ontario
K8P 4P1, Canada
Tel : (613) 966-5500
Fax : (613) 966-9418

Leeds, Grenville and Lanark District Health Unit

458 Laurier Boulevard
Brockville, Ontario
K6V 7A3, Canada
Tel : (613) 345-5685
Fax : (613) 345-2879
Web : www.healthunit.org

Eastern Ontario Health Unit

1000 Pitt Street
Cornwall, Ontario
K6J 5T1, Canada
Tel : (613) 933-1375
Fax : (613) 933-7930

Kingston, Frontenac and Lennox and Addington Health Unit

221 Portsmouth Avenue
Kingston, Ontario
K7M 1V5, Canada
Tel : (613) 549-1232
Fax : (613) 549-7896
Web : www.healthunit.on.ca

City of Ottawa Health Department

495 Richmond Road
Ottawa, Ontario
K2A 4A4, Canada
Tel : (613) 722-2328
Fax : (613) 724-4152
Web :
http://www.city.ottawa.on.ca/city_services/yourhealth/28_0_en.shtml

Renfrew County and District Health Unit

7 International Drive
Pembroke, Ontario
K8A 6W5, Canada
Tel : (613) 732-3629
Fax : (613) 735-3067
Web : www.rcdhu.com

TORONTO REGION

Toronto Public Health

277 Victoria Street, 5th Floor
Toronto, Ontario
M5B 1W2, Canada
Tel : 416-392-7401
Fax : 416-392-0713
Web : www.city.toronto.on.ca/health

NORTH REGION

Muskoka-Parry Sound Health Unit

70 Pine Street
Bracebridge, Ontario
P1L 1N3, Canada
Tel : (705) 645-4471
Fax : (705) 645-8567
Web : www.mpslu.on.ca

Northwestern Health Unit

21 Wolsley Street
Kenora, Ontario
P9N 3W7, Canada
Tel : (807) 468-3147
Fax : (807) 468-4970
Web : www.nwhu.on.ca

Timiskaming Health Unit

P.O. Box 1240
221 Whitewood Avenue
New Liskeard, Ontario
P0J 1P0, Canada
Tel : (705) 647-4305
Fax : (705) 647-5779
Web : www.timiskaminghu.com

North Bay and District Health Unit

681 Commercial Street
North Bay, Ontario
P1B 4E7, Canada
Tel : (705) 474-1400
Fax : (705) 474-8252
Web : www.nbdhu.on.ca

Algoma Health Unit

Civic Centre, 6th Floor
99 Foster Drive
Sault Ste. Marie, Ontario
P6A 5X6, Canada
Tel : (705) 759-5287
Fax : (705) 759-1534
Web : www.ahu.on.ca

Sudbury and District Health Unit

1300 Paris Street
Sudbury, Ontario
P3E 3A3, Canada
Tel : (705) 522-9200
Fax : (705) 522-5182
Web : www.sdh.u.on.ca

Thunder Bay District Health Unit

999 Balmoral Street
Thunder Bay, Ontario
P7B 6E7, Canada
Tel : (807) 625-5900
Fax : (807) 623-2369
Web : www.tbdhu.on.ca

Porcupine Health Unit

P.O. Bag 2012
169 Pine Street South
Timmins, Ontario
P4N 8B7, Canada
Tel : (705) 267-1181
Fax : (705) 264-3980
Web : www.porcupinehu.on.ca

SOUTH WEST REGION

Chatham-Kent Health Unit

P. O. Box 1136
435 Grand Avenue West
Chatham, Ontario
N7M 5L8, Canada
Tel : (519) 352-7270
Fax : (519) 352-2166
Web : www.city.chatham-kent.on.ca/healthunit

Huron County Health Unit

Health and Library Complex
Highway 4 S., R.R. 5, P.O.Box 1120
Clinton, Ontario
N0M 1L0, Canada
Tel : (519) 482-3416
Fax : (519) 482-7820
Web site : www.srhip.on.ca/hchu

Middlesex-London Health Unit

50 King Street
London, Ontario
N6A 5L7, Canada
Tel : (519) 663-5317
Fax : (519) 663-9581
Web : www.healthunit.com

Bruce-Grey-Owen Sound Health Unit

920 - 1st Avenue West
Owen Sound, Ontario
N4K 4K5, Canada
Tel : (519) 376-9420
Fax : (519) 376-0605
Web : www.srhip.on.ca/BGOSHU2/index.html

Lambton Health Unit

160 Exmouth Street
Point Edward, Ontario
N7T 7Z6, Canada
Tel : (519) 383-8331
Fax : (519) 383-7092
Web : www.lambtonhealth.on.ca

Elgin-St. Thomas Health Unit

99 Edward Street
St. Thomas, Ontario
N5P 1Y8, Canada
Tel : (519) 631-9900
Fax : (519) 633-0468

Perth District Health Unit

653 West Gore Street
Stratford, Ontario
N5A 1L4, Canada
Tel : (519) 271-7600
Fax : (519) 271-2195
Web : www.pdhu.on.ca

Windsor-Essex County Health Unit

1005 Ouellette Avenue
Windsor, Ontario
N9A 4J8, Canada
Tel : (519) 258-2146
Fax : (519) 258-6003
Web : www.wechealthunit.org

Oxford County Board of Health

410 Buller Street
Woodstock, Ontario
N4S 4N2, Canada
Tel : (519) 539-9800
Fax : (519) 539-6206
Web : www.county.oxford.on.ca/ocbh

The Government of Ontario has produced many informative publications related to drinking water protection and our province-wide strategy called Operation Clean Water.

To access our library of information on drinking water protection and other water issues, go to: www.ene.gov.on.ca and click on 'water.'

This information is subject to change. Refer to the Government of Ontario website at www.gov.on.ca and go to the relevant Ministry or organizational unit for current listings.

IMPORTANT CONTACTS AT THE MOE REGARDING O. REG. 505/01

MOE Contact Information	Relevant Issues
MINISTRY OF THE ENVIRONMENT PUBLIC INFORMATION CENTRE 1st floor 135 St. Clair Ave. W. Toronto, ON M4V 1P5 General inquiry: 416-325-4000 Toll free: 1-800-565-4923 Fax: 416-325-3159	<ul style="list-style-type: none"> • General inquiries • Obtaining a warning notice sign
SPILLS ACTION CENTRE Tel: 1-800-268-6060 Fax: 1-800-268-6061	<ul style="list-style-type: none"> • Adverse water quality and notice of problems [Reg. section 11]
ENVIRONMENTAL ASSESSMENT AND APPROVALS BRANCH Attention: Director 2 St. Clair Avenue West, Floor 12A Toronto, Ontario M4V 1L5 Tel: 416-314-8001 Toll free: 1-800-461-6290 Fax: 416-314-8452	<ul style="list-style-type: none"> • Certificates of Approval under the <i>OWRA</i>, and possible exemptions [Reg. section 3] • Treatment requirements for groundwater under the influence of surface water [Reg. sub-section 4(4)] • Notice of Compliance with treatment and equipment requirements; and forms for submitting notice [Reg. section 5] • Submission of engineers reports and written notices [Reg. section 5]

MOE Contact Information	Relevant Issues
ENVIRONMENTAL MONITORING AND REPORTING BRANCH Attention: Director 125 Resources Road Toronto, Ontario M9P 3V6 Tel: 416-235-6300 Fax: 416-235-6235	<ul style="list-style-type: none"> • Reports submitted by the lab on results of analyses of water samples [Reg. sub-section 10(2)]
LABORATORY SERVICES BRANCH Attention: Director 125 Resources Road Toronto, Ontario M9P 3V6 Tel: 416-235-5743 Fax: 416-235-5744	<ul style="list-style-type: none"> • Notice of identity of laboratory(s) analysing water samples [Reg. sub-section 10(3)]
HUMAN RESOURCES BRANCH Attention: Director 40 St. Clair Ave. W., 5th floor Toronto ON M4V 1M2 Tel: 416-314-9334 TDD: 416-314-9336 Fax: 416-314-9313	<ul style="list-style-type: none"> • Training for water works operators to become a 'trained person' [Reg. section 7]

INTERESTED AUTHORITIES FOR DESIGNATED FACILITIES

<i>Contact Information for Interested Authority</i>	<i>Types of designated facilities covered (refer to Glossary of Terms for more detailed descriptions of facility type)</i>
THE DIRECTOR OF THE DELIVERY- AGENT CARE FACILITY Contact the Designated Facility to obtain this contact information.	<ul style="list-style-type: none"> • Delivery agent care facilities
MINISTRY OF HEALTH AND LONG-TERM CARE Public Health Branch 5700 Yonge Street, 8 th Floor Toronto, Ontario M2M 4K5 Tel: 416 327 7392 Fax: 416 327 7438	<ul style="list-style-type: none"> • Health-care facilities
MINISTRY OF EDUCATION Director, Business Services Branch 900 Bay Street Mowat Block, 21 st Floor Toronto, Ontario M7A 1L2 Tel: 416 325 4030 Fax: 416 325 4024	<ul style="list-style-type: none"> • Schools
MINISTRY OF COMMUNITY AND SOCIAL SERVICES Community Programs and Divisional Support Branch Attention: Rand Houghton 80 Grosvenor Street Hepburn Block, 7 th Floor Toronto, Ontario M7A 1E9 Tel: 416 325 5478 Fax: 416 325 9631	<ul style="list-style-type: none"> • Social care facilities (group homes)
MINISTRY OF TRAINING, COLLEGES AND UNIVERSITIES Assistant Deputy Minister, Post Secondary Education Division 900 Bay Street Mowat Block, 9 th Floor Toronto, Ontario M7A 1L2 Tel: 416 325 2199 Fax: 416 326 3256	<ul style="list-style-type: none"> • Universities, colleges of applied arts and technology, and institutions with authority to grant degrees

MINISTRY OF THE ENVIRONMENT DISTRICT AND REGIONAL OFFICES

NORTHERN REGION

Thunder Bay Regional Office

435 James St. S., Suite 331
Thunder Bay ON P7E 6S7
Toll free from area codes 705/807: 1-800-875-7772
Tel: (807) 475-1205
Fax: (807) 475-1754

Thunder Bay District Office

435 James St. S., Suite 331
Thunder Bay ON P7E 6E3
Toll free from area code 705/807: 1-800-875-7772
Tel: (807) 475-1315
Fax: (807) 473-3160

Sault Ste Marie Area Office

70 Foster Drive, Suite 601
Sault Ste. Marie ON P6A 6V4
Toll free from area codes 705/807: 1-800-965-9990
Tel: (705) 949-4640
Fax: (705) 945-6868

Sudbury District Office

199 Larch St., Suite 1101
Sudbury ON P3E 5P9
Toll free from area codes 705/807: 1-800-890-8516
Tel: (705) 564-3237
Fax: (705) 564-4180

Timmins District Office

Ontario Govt. Complex
Hwy 101 East, P.O. Bag 3080
South Porcupine ON P0N 1H0
Toll free in area codes 705/807:
1-800-380-6615
Tel: (705) 235-1500
Fax: (705) 235-1520

North Bay Area Office

447 McKeown Ave.
Suite 103
North Bay ON P1B 9S9
Toll free: 1-800-609-5553
Tel: (705) 497-6865
Fax: (705) 497-6866

Kenora Area Office

808 Robertson St.
P. O. Box 5150
Kenora ON P9N 3X9
Toll free from area code 807: 1-888-367-7622
Tel: (807) 468-2718
Fax: (807) 468-2735

CENTRAL REGION

Central Region Office

5775 Yonge St., 8th floor
North York ON M2M 4J1
Toll free: 1-800-810-8048
Tel: (416) 326-6700
Fax: (416) 325-6345

Halton-Peel District Office

4145 North Service Road,
Suite 300
Burlington ON L7L 6A3
Toll free: 1-800-335-5906
Tel: (905) 319-3847
Fax: (905) 319-9902

York-Durham District Office

230 Westney Rd. S., 5th floor
Ajax ON L1S 7J5
Toll free: 1-800-376-4547
Tel: (905) 427-5600
Fax: (905) 427-5602

Metro Toronto District Office

5775 Yonge St., 8th floor
North York ON M2M 4J1
Toll free: 1-800-810-8048
Tel: (416) 326-5716
Fax: (416) 325-6346

EASTERN REGION

Kingston Regional Office

Box 820, 133 Dalton Ave.
Kingston ON K7L 4X6
Toll free for area codes 613/705/905: 1-800-267-0974
Tel: (613) 549-4000
Fax: (613) 548-6908

Belleville Area Office

Bay View Mall
470 Dundas St. E.
Belleville ON K8N 1G1
Toll free from area code 613: 1-800-860-2763
Tel: (613) 962-9208
Fax: (613) 962-6809

Kingston District Office

Box 820, 133 Dalton Ave.
Kingston ON K7L 4X6
Toll free for area codes 613/705/905:
1-800-267-0974
Tel: (613) 549-4000 extension 2692
Fax: (613) 548-6920

Ottawa District Office

2435 Holly Lane
Ottawa ON K1V 7P2
Toll free: 1-800-860-2195
Tel: (613) 521-3450
Fax: (613) 521-5437

Cornwall Area Office

113 Amelia St.
Cornwall ON K6H 3P1
Toll free number for area code 613: 1-800-860-2760
Tel: (613) 933-7402
Fax: (613) 933-6402

Peterborough District Office

300 Water Street
Robinson Place
Peterborough ON K9J 8M5
Toll free from area codes 613/705/905:
1-800-558-0595
Tel: (705) 755-4300
Fax: (705) 755-4321

WEST-CENTRAL REGION**Hamilton Regional Office**

12th floor
119 King St. W.
Hamilton ON L8P 4Y7
Toll free: 1-800-668-4557
Tel: (905) 521-7640
Fax: (905) 521-7820

Guelph District Office

1 Stone Road W.
Guelph ON N1G 4Y2
Toll free: 1-800-265-8658
Tel: (519) 826-4255
Fax: (519) 826-4286

Niagara District Office

301 St. Paul St., 9th floor
St. Catharines ON L2R 3M8
Toll free: 1-800-263-1035
Tel: (905) 704-3900
Fax: (905) 704-4015

Hamilton District Office

9th floor
119 King St. W.
Hamilton ON L8P 4Y7
Toll free: 1-800-668-4557
Tel: (905) 521-7650
Fax: (905) 521-7806

SOUTHWESTERN REGION**London Regional Office**

659 Exeter Road, 2nd Floor
London ON N6E 1L3
Toll free number from area code 519: 1-800-265-7672
Tel: (519) 873-5000
Fax: (519) 873-5020

Barrie District Office

54 Cedar Pointe Dr.
Unit 1203
Barrie ON L4N 5R7
Toll free: 1-800-890-8511
Tel: (705) 739-6441
Fax: (705) 739-6440

Sarnia District Office

1094 London Rd.
Sarnia ON N7S 1P1
Toll free number: 1-800-387-7784
Tel: (519) 336-4030
Fax: (519) 336-4280

Windsor Area Office

250 Windsor Ave., 6th floor
Windsor ON N9A 6V9
Toll free number: 1-800-387-8826
Tel: (519) 254-2546
Fax: (519) 254-5894

Owen Sound Area Office

1580-20th St. E. P.O. 967
Owen Sound ON N4K 6H6
Toll free number from area code 519: 1-800-265-3783
Tel: (519) 371-2901
Fax: (519) 371-2905

ANNUAL DRINKING WATER REPORT

ABC District School Board - School No. 51

Introduction

The ABC District School Board is pleased to present to the parents and students of School No. 51 its first annual drinking water report. The province's Drinking Water Protection Regulation for Smaller Water Works Serving Designated Facilities requires that we publish this report for your information. Here you will find the water quality data and other information that we were required to collect for the annual period August 1, 2001 to July 31, 2002.

If you have a question about the School No. 51 water supply or this report, please call the area superintendent John Smith at 905-555-1234 or school principal Jane Doe at 905-555-6789 during business hours.

Water system information

School No. 51 has been served by an on-site well supply since the school was built in 1984. The well is a drilled well four inches in diameter and completed to a depth of 22 metres, where water is obtained from a sand/gravel aquifer. In order to comply with the minimum treatment requirements contained in the regulation, ultraviolet disinfection equipment was installed in the fall of 2001. As an extra precaution, chlorine feed equipment was installed – even though it was not required by the regulation – to supply a small residual disinfectant level in the school's plumbing. A professional engineer hired by the Board provided certification that the water works at the school meets the minimum treatment requirements set forth in the regulation. This engineering assessment and certification is a mandatory requirement of the regulation.

Equipment costs incurred in 2001-2002

The cost of treatment equipment, instrumentation for measuring chlorine levels and the consultant was approximately \$9,000.

Summary of notices and reports

As required by the regulation, the ABC School Board submitted a notice to the Ministry of the Environment and to the interested authority (the Ministry of Education) in September 2001 advising it that the water supply at the school did not meet the minimum treatment requirements. The notice of non-compliance also advised that the Board had retained the services of an engineering consultant and planned to be in compliance by March 2002.

In March 2002, after the new water works commenced operation, the Board submitted its engineer's report to the Ministry of the Environment and the interested authority (the Ministry of Education) as required by the regulation. The report certified that the School No. 51 water works met all requirements.

Adverse water quality notifications and corrective actions

There were no notices submitted to the Ministry of the Environment or the local Medical Officer of Health indicating samples with adverse water quality.

Summary of water quality

The regulation requires the Board to sample for various types of water quality parameters at prescribed frequencies. The results are presented in the tables below, followed by some definitions you may find useful.

Summary of On-Site Measurements							
Parameter	Units	Frequency	No. of Samples	Min.	Max.	Avg.	MAC/IMAC
Free Chlorine (Treated)	mg/L	daily	195	0.11	0.28	0.22	See below*
Turbidity (Filtered, Untreated)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* Must not fall below 0.05 mg/L - recommended level is 0.2 mg/L

Summary of Results for Microbiological Parameters							
Parameter	Sample Type	Frequency	No. of Samples	Min. Detected	Max. Detected	No. of exceed-ances	MAC
Total Coliforms (per 100 mL)	Untreated	monthly	10	ND	2	N/A	N/A
	Treated	Once per 2 weeks	20	ND	ND	0	ND
<i>E. coli</i> (per 100 mL)	Untreated	monthly	10	ND	ND	N/A	N/A
	Treated	Once per 2 weeks	20	ND	ND	0	ND
HPC (per mL)	Treated	Once 2 weeks	20	25	75	0	500

*ND - non detectable

Summary of Results for Chemical Parameters

[illegible]

Summary of Results for Chemical Parameters

[illegible]

Summary of Results for Chemical Parameters

[illegible]

Note:

Units are in mg/L.

Sampling frequency is once per five years.

DEFINITIONS

MAC

Maximum Acceptable Concentration. This is a health-related Ontario drinking water standard established for contaminants that have known or suspected adverse health effects when present above a certain concentration. The length of time the MAC can be exceeded without injury to health will depend on the nature and concentration of the parameter.

IMAC

Interim Maximum Acceptable Concentration. This is a health-related Ontario drinking water standard established for contaminants when there are insufficient toxicological data to establish a MAC with reasonable certainty, or when it is not practical to establish a MAC at the desired level.

Parameter

A measurable or quantifiable characteristic or feature. The Drinking Water Protection Regulation for Smaller Water Works Serving Designated Facilities requires a number of parameters to be tested for in a water sample analysis, and provides a list of acceptable concentrations for each of those parameters. See 'MAC' and 'IMAC.'

NTU

Stands for nephelometric turbidity unit, a unit of measurement for turbidity.

mg/L

Milligrams per litre. This is a measure of the concentration of a chemical parameter in water, sometimes called parts per million (ppm).



Ontario Regulation 505/01

Filed: December 19, 2001

Ontario Gazette: January 5, 2002

reg2001.0225
15-BA/MS/DB

ONTARIO REGULATION 505/01 made under the ONTARIO WATER RESOURCES ACT

DRINKING WATER PROTECTION – SMALLER WATER WORKS SERVING DESIGNATED FACILITIES

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Schedule 1
Schedule 2

Indicators of Adverse Water Quality
Chemical Standards

Interpretation

1. (1) In this Regulation,

“approval” means an approval under subsection 52 (1) of the Act;

“day nursery” means a day nursery as defined in the *Day Nurseries Act*;

“delivery agent care facility” means,

- (a) a place where an emergency hostel service that receives funding under the *Ontario Works Act, 1997* is provided,
- (b) a domiciliary hostel that receives funding under the *Ministry of Community and Social Services Act*,
- (c) a place where a resource centre program that receives funding under the *Day Nurseries Act* is provided, or
- (d) a place where a recreational program that receives funding under the *Day Nurseries Act* is provided;

“designated facility” means,

- (a) a delivery agent care facility,
- (b) a health care facility,
- (c) a school or private school,
- (d) a social care facility,
- (e) a university, a college of applied arts and technology, or an institution with authority to grant degrees;

“health care facility” means a facility that provides overnight accommodation and that is,

- (a) a hospital within the meaning of the *Public Hospitals Act* or the *Community Psychiatric Hospitals Act*,

- (b) a private hospital within the meaning of the *Private Hospitals Act*,
- (c) a psychiatric facility within the meaning of the *Mental Health Act*,
- (d) a nursing home within the meaning of the *Nursing Homes Act*,
- (e) a home within the meaning of the *Homes for the Aged and Rest Homes Act*,
- (f) an approved charitable institution within the meaning of the *Charitable Institutions Act* that is approved under section 3 of that Act as,
 - (i) a halfway house where rehabilitative residential group care may be provided for adult persons,
 - (ii) a home for the aged, or
 - (iii) a home where residential group care may be provided for handicapped or convalescent adult persons,
- (g) a cancer centre established by the Ontario Cancer Treatment and Research Foundation under the *Cancer Act*,
- (h) a home for special care within the meaning of the *Homes for Special Care Act*,
- (i) an approved home within the meaning of the *Mental Hospitals Act*,
- (j) a commercially operated residence for seniors or retired persons, or any other similar commercially operated residence, where attainment of a mature age is a factor in being accepted for occupancy,
- (k) a nursing station, health centre, clinic or other facility that receives funding through the Ministry of Health and Long-Term Care's Underserved Area Program, or
- (l) a facility owned or leased by a person who receives funding from the Ministry of Health and Long-Term Care for one or more of the following health care support services that are provided to or are available to residents of the facility:
 - (i) a residential treatment services program,

(ii) a withdrawal management services program,

(iii) a dedicated supportive housing project;

“infiltration gallery” means a subsurface ground water collection system constructed with open-jointed or perforated pipes that discharge collected water into a watertight chamber;

“interested authority” means,

- (a) with respect to a delivery agent care facility, the delivery agent designated under the *Ontario Works Act, 1997* or the *Day Nurseries Act* for the geographic area in which the facility is located, or any successor of that delivery agent,
- (b) with respect to a health care facility, the Ministry of Health and Long-Term Care, or any successor of that ministry,
- (c) with respect to a school, the Ministry of Education, or any successor of that ministry,
- (d) with respect to a social care facility, the Ministry of Community and Social Services, or any successor of that ministry, or
- (e) with respect to a university, a college of applied arts and technology, or an institution with authority to grant degrees, the Ministry of Training, Colleges and Universities, or any successor of that ministry;

“plumbing” means plumbing to which the *Building Code Act, 1992* applies;

“private school” means a private school as defined in the *Education Act*;

“professional engineer” means a professional engineer as defined in the *Professional Engineers Act*;

“school” means a school as defined in the *Education Act*;

“social care facility” means,

- (a) a facility designated by the regulations under the *Developmental Services Act* as a facility to which that Act applies,

- (b) a residence licensed as a children's residence under the *Child and Family Services Act*,
- (c) a facility where child development services, child treatment services, child welfare services, community support services or young offenders services, within the meaning of the *Child and Family Services Act*, are provided, unless the facility is located in a private residence,
- (d) a facility where child and family intervention services, within the meaning of Regulation 70 of the Revised Regulations of Ontario, 1990 made under the *Child and Family Services Act*, are provided, unless the facility is located in a private residence,
- (e) a place where an emergency shelter service that receives funding under the *Ministry of Community and Social Services Act* is provided, unless the place is located in a private residence,
- (f) a day nursery,
- (g) a sheltered workshop that receives funding under the *Developmental Services Act* or the *Ministry of Community and Social Services Act*,
- (h) a place where a supported employment program that receives funding under the *Developmental Services Act* or the *Ministry of Community and Social Services Act* is provided,
- (i) a place where an adults' community support service that receives funding under the *Developmental Services Act* is provided, unless the place is located in a private residence,
- (j) a place where an employment preparation, training and job placement program that receives funding under the *Developmental Services Act* or the *Ontario Disability Support Program Act, 1997* is provided,
- (k) a place where a violence against women program that receives funding under the *Ministry of Community and Social Services Act* is provided, unless the place is located in a private residence,
- (l) a place where an aboriginal healing and wellness program is provided;

"trained person" means,

- (a) with respect to any water treatment or distribution system, a person who holds a Class I, Class II, Class III or Class IV water treatment facility operator's licence or water distribution facility operator's licence issued under Ontario Regulation 435/93 (Water Works and Sewage Works), or
 - (b) with respect to a water treatment or distribution system for which none of the water works that are part of the system require an approval, a person who, in the preceding 36 months, successfully completed a course approved by the Director relating to functions that are required by this Regulation to be performed by trained persons.
- (2) For the purposes of this Regulation, a school or private school is open on a day if, at any time during that day, there are any persons inside any school building, other than the principal, a vice-principal or other academic administrator, or a member of the teaching, custodial or security staff.
- (3) For the purposes of this Regulation, a day nursery is open on a day if, at any time during that day, any of the children cared for are present in the day nursery.
- (4) For the purpose of this Regulation, a laboratory is an accredited laboratory for a parameter if,
- (a) the laboratory is accredited for analysis of that parameter by the Standards Council of Canada; or
 - (b) the laboratory has obtained an accreditation for analysis of that parameter that, in the Director's opinion, is equivalent to accreditation by the Standards Council of Canada.
- (5) For the purpose of this Regulation, analysis for a microbiological parameter shall be deemed to be carried out in an accredited laboratory for that parameter if it is carried out in an Ontario Ministry of Health and Long-Term Care laboratory by a member of the College of Medical Laboratory Technologists of Ontario.

Application

2. (1) This Regulation applies to a water treatment or distribution system if the following conditions are met:

1. Ontario Regulation 459/00 does not apply.
2. Water from the water treatment or distribution system is used to provide water for human consumption at a designated facility.

(2) For the purpose of subsection (1), the provision of water for human consumption includes the provision of water to washbasins, bathtubs, showers, kitchens or food preparation areas.

(3) Despite subsection (1), this Regulation does not apply to a water treatment or distribution system that obtains all of its water from another water treatment or distribution system to which this Regulation or Ontario Regulation 459/00 does apply.

Exemption from approval

3. (1) Subsections 52 (1) and (3) of the Act do not apply to a water works that is part of a water treatment or distribution system to which this Regulation applies, if the system does not obtain water from,

- (a) a surface water source;
- (b) a well, any part of which is within 15 metres of surface water; or
- (c) an infiltration gallery.

(2) Subsection (1) applies to an alteration, extension or replacement of a water works only if, in the absence of subsection (1), the water treatment or distribution system that the water works is part of would be exempt from Ontario Regulation 459/00 after the alteration, extension or replacement because of subsection 3 (2), (3) or (4) of that regulation.

Minimum level of treatment

4. (1) The owner of a water treatment or distribution system shall ensure the following:

1. Any well used as a water source is constructed and maintained to prevent surface water and other foreign materials from entering the well.
2. Water treatment equipment is provided in accordance with this section.
3. The water treatment equipment is in operation whenever water is being obtained or supplied.
4. The water treatment equipment is operated in a manner that achieves the capabilities it is required to have under paragraph 2.
5. The water treatment equipment is properly maintained.

6. Written operating instructions for the water treatment equipment are kept near the equipment.
7. Clearly marked adequate supplies of chemicals or other materials necessary for the operation of the water treatment equipment are kept nearby, separate from other chemicals and materials that are not used for the water treatment or distribution system.
8. Replacement parts are kept nearby for those parts of the water treatment equipment that may be expected to require periodic replacement.
9. Maintenance of and adjustments to the water treatment equipment are carried out only by trained persons.

(2) If a water treatment or distribution system obtains water from a ground water source, the owner of the system shall ensure that disinfection equipment is provided that,

(a) in the case of chlorination equipment,

- (i) is capable of providing a contact time of not less than the minimum contact time set out for the system's baffling conditions in the Table that follows this subsection, and
- (ii) is capable of providing a minimum chlorine residual of 0.2 milligrams per litre, measured as free chlorine, at maximum flow in all water that has been treated by the equipment; or

(b) in the case of other disinfection equipment,

- (i) is capable of being equivalent to or better than chlorination with respect to the ability to achieve at least 99 per cent inactivation of viruses in water that has a temperature of approximately 10°C and a pH of between 6 and 9, and
- (ii) is capable of being equivalent to or better than chlorination, having regard to reliability, ease of use and minimization of the formation of disinfection by-products.

TABLE
GROUND WATER SOURCE – CHLORINATION – MINIMUM CONTACT TIMES
(subclause 4 (2) (a) (i))

Item	Baffling Conditions	Minimum Contact Time (minutes)
1.	Unbaffled (mixed flow) separate inlet-outlet: none, agitated basin, very low length to width ratio, high inlet and outlet flow velocities	150
2.	Poor: single or multiple unbaffled inlets and outlets, no intra-basin baffles	50
3.	Average: baffled inlet or outlet with some intra-basin baffles	30
4.	Superior: perforated inlet baffle, serpentine or perforated intra-basin baffles, outlet weir or perforated launders	22
5.	Perfect (plug flow): very high length to width ratio (pipeline flow)	15

(3) If a water treatment or distribution system obtains water from a surface water source, the owner of the system shall ensure that,

- (a) filtration and disinfection equipment is provided that is capable of satisfying the requirements of clause 2.2 a and section 3 of the procedure entitled “Chlorination of Potable Water Supplies in Ontario” in the Ministry of the Environment publication entitled “Ontario Drinking Water Standards”, originally dated August 2000, as amended from time to time; or
- (b) filtration and disinfection equipment is provided that,
 - (i) is capable of being equivalent to or better than filtration and chlorination with respect to the ability to achieve at least 99.99 per cent removal or inactivation of viruses in water of every temperature and pH that is likely to be encountered in the surface water source when the water treatment or distribution system is in operation,
 - (ii) is capable of being equivalent to or better than filtration and chlorination with respect to the ability to achieve at least 99.9 per cent removal or inactivation of *giardia lamblia* cysts in water of every temperature and pH that is likely to be encountered in the surface water source when the water treatment or distribution system is in operation, and
 - (iii) is capable of being equivalent to or better than filtration and chlorination, having regard to reliability, ease of use and minimization of the formation of disinfection by-products.

(4) Subsection (3) applies, and subsection (2) does not apply, to a water treatment or distribution system that obtains water from,

- (a) a well, any part of which is within 15 metres of surface water; or
- (b) an infiltration gallery.

(5) Subsection (3) does not apply to the extent that an approval granted on or after December 19, 2001 imposes different requirements and provides that they apply instead of requirements that would otherwise be imposed by subsection (3).

(6) If a water treatment or distribution system includes a water distribution system or provides water to plumbing, and any part of the water distribution system or plumbing is in the natural environment, the owner of the water treatment or distribution system shall, in addition to complying with subsection (2) or (3), whichever is applicable, ensure that disinfection equipment is provided that,

- (a) in the case of chlorination equipment,
 - (i) is capable of providing disinfection that persists into the water distribution system or plumbing, and
 - (ii) is capable of providing a free chlorine residual of at least 0.2 milligrams per litre at every point in the water distribution system or plumbing; or
- (b) in the case of other disinfection equipment,
 - (i) is capable of being equivalent to or better than chlorination with respect to the ability to achieve disinfection that persists into the water distribution system or plumbing and the ability to ensure disinfection at every point in the water distribution system or plumbing, and
 - (ii) is capable of being equivalent to or better than chlorination, having regard to reliability, ease of use and minimization of the formation of disinfection by-products.

(7) Subsection (6) does not apply if the owner complies with subsection (2) or (3), whichever is applicable, and all disinfection provided in accordance with subsection (2) or (3) takes place at a point or points in the water treatment or distribution system that is

after all parts of the water distribution system or plumbing that are in the natural environment.

(8) This section prevails over an approval granted before December 19, 2001 that provides for less stringent requirements.

(9) If a water treatment or distribution system commenced operation before December 19, 2001 and, immediately before that day, was not in compliance with this section, the owner of the system is not required to comply with this section until,

- (a) September 1, 2002, if the water treatment or distribution system serves a school; or
- (b) December 31, 2002, if the water treatment or distribution system does not serve a school.

Notice of compliance

5. (1) The owner of a water treatment or distribution system that commenced operation before December 19, 2001 shall ensure that, not later than the date specified in subsection (2),

- (a) a professional engineer submits a report to the Director, and to the interested authority for each designated facility served by the system, that complies with subsection (5); or
- (b) the owner submits a written notice to the Director, and to the interested authority for each designated facility served by the system, describing the action proposed in order to achieve compliance with all applicable requirements of section 4 and setting out a timetable for the action.

(2) The date referred to in subsection (1) is,

- (a) the 60th day after December 19, 2001 [**February 17, 2002**], if the water treatment or distribution system serves a school;
- (b) the 90th day after December 19, 2001 [**March 19, 2002**], if the water treatment or distribution system serves a health care facility or delivery agent care facility but does not serve a school; or
- (c) the 120th day after December 19, 2001 [**April 18, 2002**], if the water treatment or distribution system does not serve a health care facility, delivery agent care facility or school.

(3) If a notice is submitted under clause (1) (b), the owner of the water treatment or distribution system shall ensure that, not later than 30 days after the date the owner is required, pursuant to subsection 4 (9), to comply with section 4, a professional engineer submits a report to the Director, and to the interested authority for each designated facility served by the system, that complies with subsection (5).

(4) If a water treatment or distribution system is established, altered, extended or replaced on or after December 19, 2001, the owner of the system shall ensure that, not later than 30 days after the system first commences operation after the establishment, alteration, extension or replacement, a professional engineer submits a report to the Director, and to the interested authority for each designated facility served by the system, that complies with subsection (5).

(5) For the purposes of clause (1) (a) and subsections (3) and (4), a report complies with this subsection if the professional engineer who submits the report certifies in the report that he or she has visited the water treatment or distribution system and that, in his or her opinion,

- (a) section 4 is being complied with; and
- (b) all equipment required in order to ensure compliance with section 7 is being provided.

(6) Subsection (3) does not apply if, before the date the report is required to be submitted under that subsection, a report is submitted to the Director under subsection (4) in respect of the water treatment or distribution system.

(7) This section does not apply in respect of a water treatment or distribution system that includes a water works for which an approval is in force.

(8) The provisions of this section that require a report or notice to be submitted to the interested authority for a designated facility do not apply to a designated facility that is,

- (a) a private school; or
- (b) a commercially operated residence for seniors or retired persons, or any other similar commercially operated residence, where attainment of a mature age is a factor in being accepted for occupancy.

Schools, private schools and day nurseries, weekly flushing

6. (1) If a water treatment or distribution system serves a school, private school or day nursery, the operator of the school, private school or day nursery shall ensure that,

- (a) the plumbing is flushed on the first day that the school, private school or day nursery is open each week; and
- (b) the flushing required by clause (a) continues until the temperature of the water stabilizes and is completed before the school, private school or day nursery opens for the day.

(2) The operator of a school, private school or day nursery to which subsection (1) applies shall ensure that a record is made of the date and time of every flushing required by clause (1) (a) and the name of the person who performed the flushing.

Periodic checks

7. (1) The owner of a water treatment or distribution system shall ensure that all water treatment equipment is checked at least once each week by a trained person to confirm proper functioning and that, for each check, a record is made of the date and time of the check, the name of the person who performed the check and the results of the check.

(2) Subject to subsection (5), if chlorination equipment described in clause 4 (2) (a), 4 (3) (a) or 4 (6) (a) is used in a water treatment or distribution system that serves a designated facility, the owner of the system shall ensure that,

- (a) a water sample is taken at least once every day from the water distribution system or plumbing that serves the designated facility;
- (b) the sample is tested immediately for free chlorine residual by a trained person using an electronic direct readout colourimetric or amperometric chlorine analyzer or a device described in subsection (3); and
- (c) a record is made of the date and time the sample was tested, the name of the person who performed the test and the results of the test.

(3) A device other than an electronic direct readout colourimetric or amperometric chlorine analyzer may be used to perform tests under clause (2) (b) if, based on an inspection of the device and on a review of relevant records and documentation, a professional engineer certifies in writing that it is equivalent to or better than an electronic direct readout colourimetric or amperometric chlorine analyser for performing those tests, having regard to accuracy, reliability and ease of use.

(4) Subject to subsection (5), if filtration is used in a water treatment or distribution system, the owner of the system shall ensure that,

- (a) a sample of water that has not been disinfected is taken at least once every day from a point in the water treatment or distribution system where all filtration has been completed;
- (b) the sample is tested immediately for turbidity by a trained person using a turbidity meter that measures turbidity in Nephelometric Turbidity Units (NTU); and
- (c) a record is made of the date and time the sample was tested, the name of the person who performed the test and the results of the test.

(5) An owner of a water treatment or distribution system who is required to comply with subsection (2) or (4) may instead sample and test water using automated sampling and testing equipment if the following requirements are met:

1. The automated equipment must take water samples at least as often as samples would otherwise be taken under subsection (2) or (4), as the case may be.
2. The water samples must be taken from locations from which samples would otherwise be taken under subsection (2) or (4), as the case may be.
3. The automated equipment must test the water samples, immediately after they are taken, for free chlorine residual or turbidity, as the case may be, using an analyzer or device referred to in clause (2) (b) or a meter referred to in clause (4) (b), as the case may be.
4. If any of the following circumstances arise, the automated equipment must cause an alarm to sound at a location where a person designated by the owner for the purpose of paragraph 8 is available at all times to hear the alarm:
 - i. A test of free chlorine residual under paragraph 3 shows a concentration of less than 0.05 milligrams per litre.
 - ii. A test of turbidity under paragraph 3 shows a level of more than 1.0 Nephelometric Turbidity Units (NTU).
 - iii. The automated equipment malfunctions or loses power.
5. The automated equipment must also cause an alarm to sound at each designated facility served by the water treatment or distribution system, if any of the circumstances described in paragraph 4 arise.

6. The automated equipment must record the date, time and results of every test performed under paragraph 3 and must transmit the record to a location where a person designated by the owner for the purpose of paragraph 8 will examine the record.
7. The record made of a test under paragraph 3 must be examined on the day of the test by a person designated by the owner for the purpose of paragraph 8.
8. A person designated by the owner for the purpose of this paragraph must promptly dispatch a trained person to the water treatment or distribution system if an alarm sounds under paragraph 4, a record of a test result indicates that an alarm should have sounded, or a record of a test result is not available for examination when it would normally have been expected to be available.
9. A trained person must arrive at the water treatment or distribution system within four hours after being dispatched under paragraph 8, unless water use has ceased at all designated facilities served by the water treatment or distribution system.

(6) If the only designated facilities the water treatment or distribution system serves are schools, private schools and day nurseries, subsections (2) and (4) and paragraph 7 of subsection (5) apply only on days when a school, private school or day nursery is open.

(7) Until the date that the owner of the water treatment or distribution system is required to comply with section 4, the references in this section to trained persons shall be deemed to be references to any person.

Sampling and analysis for microbiological parameters

8. (1) The owner of a water treatment or distribution system that serves a designated facility shall ensure that,

- (a) a water sample is taken, at least once every two weeks or, if chlorination is not used, at least once every week, from the water distribution system or plumbing that serves the designated facility; and
- (b) the sample is analyzed for,
 - (i) total coliforms,
 - (ii) *Escherichia coli* or fecal coliforms, and
 - (iii) heterotrophic plate count.

(2) The owner of a water treatment or distribution system shall ensure that,

- (a) a water sample is taken at least once every month from the water treatment or distribution system's water source, before any treatment is applied to the water sample; and
- (b) the sample is analyzed for,
 - (i) total coliforms, and
 - (ii) *Escherichia coli* or fecal coliforms.

(3) If the water treatment or distribution system's water source is ground water, a sample shall be taken under subsection (2) from each well in the system.

(4) If, for a period of 24 consecutive months, analytical results obtained under clause (1) (b) never disclose an indicator of adverse water quality described in paragraph 2, 3 or 4 of Schedule 1, the owner of the water treatment or distribution system may reduce the sampling frequency under clause (1) (a) so that samples are taken at least once every four weeks or, if chlorination is not used, at least once every two weeks, instead of with the sampling frequency referred to in clause (1) (a).

(5) Subsection (4) ceases to apply if, for any period of 24 consecutive months, analytical results obtained under clause (1) (b) disclose an indicator of adverse water quality described in paragraph 2, 3 or 4 of Schedule 1 on two or more occasions.

(6) If the only designated facility served by a water treatment or distribution system operates on a seasonal basis, sampling under subsections (1) and (2) is required only for the operating season, but the first sample taken under each subsection must be taken at a time that will ensure that analytical results will be received before the operating season begins.

(7) This section prevails over an approval granted before December 19, 2001 that provides for less stringent sampling or analysis.

(8) If the water treatment or distribution system uses disinfection equipment described in clause 4 (2) (b) or filtration and disinfection equipment described in clause 4 (3) (b), the system shall be deemed, for the purpose of clause (1) (a) and subsection (4), not to use chlorination.

(9) This section does not apply until the 60th day after December 19, 2001 [February 17, 2002].

Sampling and analysis for chemical parameters

9. (1) The owner of a water treatment or distribution system that serves a designated facility shall ensure that,

- (a) a water sample is taken at least once every 60 months from the water distribution system or plumbing that serves the designated facility; and
- (b) every sample taken under clause (a) is analyzed for every parameter set out in Schedule 2.

(2) Subsection (1) prevails over an approval granted before December 19, 2001 that provides for less stringent sampling or analysis.

(3) If a water treatment or distribution system commenced operation before December 19, 2001, the first sample taken under clause (1) (a) shall be taken not later than,

- (a) the 90th day after December 19, 2001 [**March 19, 2002**], if the water treatment or distribution system serves a school;
- (b) the 180th day after December 19, 2001 [**June 17, 2002**], if the water treatment or distribution system serves a health care facility or delivery agent care facility but does not serve a school; or
- (c) the 270th day after December 19, 2001 [**September 15, 2002**], if the water treatment or distribution system does not serve a health care facility, delivery agent care facility or school.

(4) If a water treatment or distribution system commences operation on or after December 19, 2001, the first sample taken under clause (1) (a) shall be taken not later than three months after the system commences operations.

Analysis of samples

10. (1) The owner of a water treatment or distribution system shall ensure that analysis of a water sample required under section 8 or 9 for a parameter is carried out in accordance with the following:

- 1. The analysis must be carried out by an accredited laboratory for that parameter.
- 2. If the laboratory that does the analysis is located outside Ontario,
 - i. the laboratory must be provided with a copy of this Regulation, and

- ii. the laboratory must agree to comply with the requirements of subsection (2) and subsection 11 (2).

(2) A laboratory shall, within 14 days after carrying out the analysis of a water sample required under section 8 or 9, prepare a report of the results of the analysis and send a copy of the report to the owner of the water treatment or distribution system and to the Director.

(3) If analysis of a water sample for a parameter is required by section 8 or 9, the owner of the water treatment or distribution system shall ensure that written notice of the identity of the laboratory that will carry out the analysis is delivered to the Director at least three working days before the sample is analyzed, unless the Director has previously been notified under this subsection that a water sample from the water treatment or distribution system will be analyzed for that parameter by that laboratory.

Notice of problems

11. (1) The owner of a water treatment or distribution system shall ensure that notice is given in accordance with this section if,

- (a) a sample of water that has been treated or is otherwise ready for human consumption is analyzed by a laboratory and the result,
 - (i) is an indicator of adverse water quality described in Schedule 1, or
 - (ii) shows that a parameter exceeds the Maximum Acceptable Concentration (MAC) or Interim Maximum Acceptable Concentration (IMAC) set out for the parameter in Schedule 2; or
- (b) other observations disclose an indicator of adverse water quality described in Schedule 1.

(2) In addition to the obligation of the owner under subsection (1) to ensure that notice is given in accordance with this section, a laboratory shall give notice in accordance with this section and shall immediately advise the owner if an analysis carried out by the laboratory of a sample of water that has been treated or is otherwise ready for human consumption,

- (a) is an indicator of adverse water quality described in Schedule 1; or
- (b) shows that a parameter exceeds the Maximum Acceptable Concentration (MAC) or Interim Maximum Acceptable Concentration (IMAC) set out for the parameter in Schedule 2.

(3) Notice under this section must be given immediately to,

- (a) the medical officer of health for the health unit in which the water treatment or distribution system is located;
- (b) the Ministry; and
- (c) the operator of each designated facility served by the water treatment or distribution system, if the owner of the water treatment or distribution system is not the operator of the designated facility.

(4) Clause (3) (c) does not apply to a notice given by a laboratory under subsection (2).

(5) The immediate notice required by subsection (3) must be given by speaking in person or by telephone with a person referred to in subsection (6).

(6) For the purpose of subsection (5), the immediate notice required by subsection (3) must be given,

- (a) to a medical officer of health, by speaking with a person at the office of the medical officer of health or, if the office is closed, by speaking with a person at the on-call system of the health unit;
- (b) to the Ministry, by speaking with a person at the Ministry's Spills Action Centre; and
- (c) to the operator of a designated facility, by speaking with a responsible individual at the facility.

(7) If a school, private school or day nursery is closed at a time when subsection (3) requires notice to be given to the operator of the school, private school or day nursery, the notice must be given not later than the time that the school, private school or day nursery re-opens.

(8) Within 24 hours after giving the immediate notice required by subsection (3), written notice must be given to,

- (a) the medical officer of health for the health unit in which the water treatment or distribution system is located;
- (b) the Ministry;

- (c) the operator of each designated facility served by the water treatment or distribution system, if the owner of the water treatment or distribution system is not the operator of the designated facility; and
- (d) the interested authority for each designated facility served by the water treatment or distribution system.

(9) Clauses (8) (c) and (d) do not apply to a notice given by a laboratory under subsection (2).

(10) The written notice required by subsection (8) must be given,

- (a) to a medical officer of health, by delivering the written notice to the office of the medical officer of health;
- (b) to the Ministry, by delivering the written notice to the Ministry's Spills Action Centre;
- (c) to the operator of a designated facility, by delivering the written notice to the facility; and
- (d) to the interested authority for each designated facility served by the water treatment or distribution system, by delivering the written notice to,
 - (i) the minister responsible for the ministry or a person designated by the minister, if the interested authority is a ministry, or
 - (ii) the head of the interested authority, if the interested authority is not a ministry.

(11) A notice given under this section by the owner of a water treatment or distribution system must confirm that appropriate corrective action is being taken.

(12) If notice is given under this section to the interested authority for a designated facility and the issue that gave rise to the notice is resolved, the owner shall ensure that, within 30 days, written notice is given to the interested authority summarizing the action taken and the results that were achieved.

(13) Clauses (8) (d) and (10) (d) and subsection (12) do not apply to a designated facility that is,

- (a) a private school; or

- (b) a commercially operated residence for seniors or retired persons, or any other similar commercially operated residence, where attainment of a mature age is a factor in being accepted for occupancy.

(14) Subsections (1) and (2) do not apply to a sample of water if the taking of the sample is not required by this Regulation and the water from which the sample is taken is not intended for human consumption.

Corrective action

12. If notice is required under subsection 11 (1) with respect to an indicator of adverse water quality described in Schedule 1, the owner of the water treatment or distribution system shall ensure that the corrective action specified in Schedule 1 for the relevant indicator is taken.

Posting warning notice

13. (1) The owner of a water treatment or distribution system shall ensure that a warning notice is posted in accordance with subsection (2) if,

- (a) the owner does not comply with the sampling or analysis requirements of section 8; or
- (b) notice is required under subclause 11 (1) (a) (i) or clause 11 (1) (b) and,
 - (i) the corrective action specified in Schedule 1 for the relevant indicator of adverse water quality is not taken, or
 - (ii) the corrective action specified in Schedule 1 for the relevant indicator of adverse water quality indicates that water use be stopped or that water be boiled.

(2) The warning notice required by this section shall be posted at each designated facility served by the water treatment or distribution system in a prominent location where it is likely to come to the attention of persons who enter the facility, and, if the facility consists of more than one building, a copy of the warning notice shall be posted in every building that persons other than staff of the facility are allowed to enter at a prominent location where it is likely to come to the attention of those persons.

(3) If the owner of a water treatment or distribution system provides the operator of a designated facility with a copy of a warning notice required by this section, the operator of the facility shall ensure that the warning notice is posted at the facility in accordance with subsection (2).

(4) If a warning notice required by this section is not posted at a designated facility in accordance with this section, the warning notice may be posted by,

- (a) a provincial officer;
- (b) a public health inspector under the *Health Protection and Promotion Act*; or
- (c) an officer or agent of the interested authority for the designated facility.

(5) Clause (4) (c) does not apply to a designated facility that is,

- (a) a private school; or
- (b) a commercially operated residence for seniors or retired persons, or any other similar commercially operated residence, where attainment of a mature age is a factor in being accepted for occupancy.

Information to be available

14. (1) The owner of a water treatment or distribution system shall ensure that the following information is available at each designated facility served by the system, between 9 a.m. and 5 p.m. or during normal business hours, for inspection without charge by any person allowed to enter the facility:

- 1. A copy of every report given to the owner by an accredited laboratory on the analysis of water samples taken under sections 8 and 9.
- 2. A copy of every approval and every order or direction under the Act that applies to the system and is still in effect, if the approval, order or direction was issued after December 19, 2001.
- 3. A copy of every annual report prepared under section 15.
- 4. A copy of this Regulation.

(2) Paragraph 1 of subsection (1) does not apply to a report until the day after it comes into the owner's possession.

(3) Paragraphs 1 and 3 of subsection (1) do not apply to a report that is more than two years old.

(4) If the owner of a water treatment or distribution system provides the operator of a designated facility with a copy of the information referred to in subsection (1), the operator of the facility shall ensure that the information is available at the facility.

between 9 a.m. and 5 p.m. or during normal business hours, for inspection without charge by any person allowed to enter the facility.

Annual report

15. (1) The owner of a water treatment or distribution system shall ensure that an annual report is prepared in accordance with this section and submitted to the Director, and to the interested authority for each designated facility served by the system, on or before,

- (a) September 1 in each year after 2001, if the system serves a school or private school; or
- (b) September 1 in each year after 2002, if the system does not serve a school or private school.

(2) The annual report must cover the period from August 1 in the previous year to July 31 in the year in which the report is due.

(3) The annual report must,

- (a) contain a brief description of the water treatment or distribution system;
- (b) summarize any reports or notices submitted to the Director under section 5 during the period covered by the report;
- (c) summarize the results of tests done under section 7 during the period covered by the report;
- (d) summarize the results received of analyses of water samples taken under section 8 during the period covered by the report;
- (e) summarize the results received of analyses of water samples taken under section 9 during the period covered by the report or, if no samples were taken under that section during that period, summarize the results received of analyses of the most recent water samples taken under that section;
- (f) describe any corrective action taken under section 12 during the period covered by the report;
- (g) describe any major expenses incurred during the period covered by the report to install, repair or replace equipment required by section 4.

(4) The owner of the water treatment or distribution system shall ensure that a copy of an annual report is given, without charge, to every person who requests a copy.

(5) Subsection (4) does not apply to an annual report that is more than two years old.

(6) The owner of the water treatment or distribution system shall ensure that, every time an annual report is prepared, effective steps are taken to advise persons allowed to enter each designated facility served by the system that copies of the report are available, without charge, and of how a copy may be obtained.

(7) The provisions of this section that require a report to be submitted to the interested authority for a designated facility do not apply to a designated facility that is,

- (a) a private school; or
- (b) a commercially operated residence for seniors or retired persons, or any other similar commercially operated residence, where attainment of a mature age is a factor in being accepted for occupancy.

Retention of documents and other records

16. (1) The owner of a water treatment or distribution system shall ensure that the following documents and other records are kept for at least five years:

- 1. Every notice or report prepared under section 5.
- 2. Every record made under section 7.
- 3. Every report given to the owner by an accredited laboratory on the analysis of water samples taken under section 8.
- 4. Every annual report prepared under section 15.

(2) The owner of a water treatment or distribution system shall ensure that every report given to the owner by an accredited laboratory on the analysis of water samples taken under section 9 is kept for at least 15 years.

(3) A laboratory that carries out the analysis of a water sample taken under section 8 or 9 shall ensure that the following documents and other records are kept for at least five years:

- 1. All documents related to the submission, receipt, storage, handling of the water sample.

2. The analytical results, including working papers.
3. The report of the results of the analysis prepared under section 10.

(4) The operator of a school, private school or day nursery shall ensure that every record made under subsection 6 (2) is kept for at least five years.

Forms

17. (1) Where this Regulation requires a written notice, warning notice, or report, the notice or report must be in a form provided by or approved by the Director.

(2) The Director may require that a document or other record that is submitted under this Regulation be submitted in an electronic format specified by the Director.

Purpose of notice to interested authorities

18. The sole purpose of the provisions of this Regulation that require notice to be given to interested authorities is to provide interested authorities with information relating to compliance with this Regulation.

Schedule 1

INDICATORS OF ADVERSE WATER QUALITY

Each of the following is an indicator of adverse water quality:

1. Water that has not been disinfected is directed to users, if disinfection is used or required. (Corrective action: Stop water use or bring water to a rapid, rolling boil for at least one minute. Restore disinfection immediately. The local Medical Officer of Health may give further instructions and may authorize resumption of normal use of the water.)
2. *Escherichia coli* (*E. coli*) or fecal coliform is detected in any required sample of water that has been treated or is otherwise ready for human consumption. (Corrective action: Stop water use or bring water to a rapid, rolling boil for at least one minute. Increase the chlorine dose and flush the water distribution system and plumbing to ensure a free chlorine residual of at least 0.2 mg/L at all points in the affected part(s) of the distribution system and plumbing. Resample and analyze. Corrective action should begin immediately. The local Medical Officer of Health may give further instructions and may authorize resumption of normal use of the water.)
3. Total coliforms are detected (but *Escherichia coli* or other fecal coliforms are not detected) in any required sample of water that has been treated or is otherwise ready for human consumption. (Corrective action: Normal use of the water may continue. Resample at the same site and analyze. If confirmed to be positive, stop water use or bring water to a rapid, rolling boil for at least one minute, increase the chlorine dose and flush the water distribution system and plumbing to ensure a free chlorine residual of at least 0.2 mg/L at all points in the affected part(s) of the distribution system and plumbing, and call the Medical Officer of Health again and consult. Corrective action should begin immediately. The local Medical Officer of Health may give further instructions and may authorize resumption of normal use of the water.)
4. More than 500 colonies per millilitre are detected on a heterotrophic plate count analysis (but *Escherichia coli* or other fecal coliforms are not detected) in any required sample of water that has been treated or is otherwise ready for human consumption. (Corrective action: Normal use of the water may continue. Resample at the same site and analyze. If confirmed to be positive, stop water use or bring water to a rapid, rolling boil for at least one minute and call the local Medical Officer of Health again and consult. The local Medical Officer of Health may give further instructions and may authorize resumption of normal use of the water.)

5. Sodium concentration exceeds 20 mg/L. The aesthetic objective for sodium in drinking water is 200 mg/L, but the local Medical Officer of Health must be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets. (Corrective action: Normal use of the water may continue. Resample and analyze. On confirmation, call the local Medical Officer of Health again.)
6. A pesticide not listed in Schedule 2 is detected. Drinking water should be free of pesticides and every effort should be made to prevent pesticides from entering raw water sources. Pesticides may be reported by their most common trade name, a listing of which, called the Compendium of Scheduled Pesticides, is accessible on the Internet through the web site of the Ontario Pesticides Advisory Committee at www.opac.gov.on.ca or the web site of the Ministry of the Environment at www.mec.gov.on.ca. (Corrective action: Normal use of the water may continue. Resample, take a corresponding raw water sample and analyze. On confirmation, call the local Medical Officer of Health again and consult.)
7. If chlorination is used, the concentration of free chlorine residual is less than 0.05 mg/L in any required sample. (Corrective action: Stop water use. Resample and test again. If the free chlorine residual is still less than 0.05 mg/L, increase the chlorine dose and flush the water distribution system and plumbing to ensure the free chlorine residual is at least 0.2 mg/L at all points in the distribution system and plumbing. Resample and test again. If the free chlorine residual is less than 0.05 mg/L, stop water use until otherwise directed by the local Medical Officer of Health. Corrective action should begin immediately.)
8. If filtration is used, the turbidity is more than 1.0 Nephelometric Turbidity Units (NTU) in any required sample. (Corrective action: Normal use of the water may continue. Resample and test again. If the turbidity is still more than 1.0 Nephelometric Turbidity Units (NTU), review the operation of all treatment processes that are installed upstream of filtration to determine the possible impact on filtration and other downstream processes and,
 - (a) backwash the filter in accordance with the manufacturer's recommendations and flush the water distribution system and plumbing; or
 - (b) replace the filter cartridge or filter element and flush the water distribution system and plumbing.)

Schedule 2

CHEMICAL STANDARDS

PARAMETER	MAC (mg/L)	IMAC (mg/L)
Alachlor		0.005
Aldicarb	0.009	
Aldrin + Dieldrin	0.0007	
Arsenic		0.025
Atrazine + N-dealkylated metabolites		0.005
Azinphos-methyl	0.02	
Barium	1.0	
Bendiocarb	0.04	
Benzene	0.005	
Boron		5.0
Bromoxynil		0.005
Cadmium	0.005	
Carbaryl	0.09	
Carbofuran	0.09	
Carbon Tetrachloride	0.005	
Chlordane (total)	0.007	
Chlorpyrifos	0.09	
Chromium	0.05	
Copper		
Cyanazine		0.01
Diazinon	0.02	
Dicamba	0.12	
1,2-Dichlorobenzene	0.2	
1,4-Dichlorobenzene	0.005	
Dichlorodiphenyltrichloroethane (DDT) + Metabolites	0.03	
1,2-Dichloroethane		0.005
1,1-Dichloroethylene (vinylidene chloride)	0.014	
Dichloromethane	0.05	
2,4-Dichlorophenol	0.9	
2,4-Dichlorophenoxyacetic acid (2,4-D)		0.1
Diclofop-methyl	0.009	
Dimethoate		0.02
Dinoseb	0.01	

PARAMETER	MAC (mg/L)	IMAC (mg/L)
Diquat	0.07	
Diuron	0.15	
Ethylbenzene		
Fluoride	1.5 ^a	
Glyphosate		0.28
Heptachlor + Heptachlor Epoxide	0.003	
Iron		
Lead	0.01	
Lindane (total)	0.004	
Malathion	0.19	
Manganese		
Mercury	0.001	
Methoxychlor	0.9	
Metolachlor		0.05
Metribuzin	0.08	
Monochlorobenzene	0.08	
Nitrate (as nitrogen)	10.0	
Nitrite (as nitrogen)	1.0	
Paraquat		0.01
Parathion	0.05	
Pentachlorophenol	0.06	
Phorate		0.002
Picloram		0.19
Polychlorinated Biphenyls (PCBs)		0.003
Prometryne		0.001
Selenium	0.01	
Simazine		0.01
Sodium		
Temephos		0.28
Terbufos		0.001
Tetrachloroethylene (perchloroethylene)	0.030	
2,3,4,6-Tetrachlorophenol	0.10	
Toluene		
Triallate	0.23	
Trichloroethylene	0.05	
2,4,6-Trichlorophenol	0.005	

PARAMETER	MAC (mg/L)	IMAC (mg/L)
2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)	0.28	
Trifluralin		0.045
Trihalomethanes (total)	0.100	
Uranium	0.10	
Vinyl Chloride	0.002	
Xylenes (total)		

Notes:

Short forms:

MAC - Maximum Acceptable Concentration

IMAC - Interim Maximum Acceptable Concentration

mg/L - milligrams per litre

MAC and IMAC are health-related standards. Where neither a MAC or IMAC is indicated, the parameter is listed for reasons related to aesthetics.

Footnotes:

^a Where fluoride is added to drinking water, it is recommended that the concentration be adjusted to between 0.5 and 0.8 mg/L, the optimum level for control of tooth decay.



